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A HANDBOOK OF LIBYA

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NOTE

The subject of the present Handbook is the Italian province officially known as Libia, or, in the English form of the name as herein adopted, Libya. The body of the work contains brief descriptions of a few places and tribes lying outside the frontiers of this province, and the routes described include some which traverse other countries such as Egypt and Tunisia; but with these exceptions the book is concerned exclusively with Libya.

The Admiralty will be glad to receive additions or corrections.

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CHAPTER I

PHYSICAL GEOGRAPHY

THE province of Libya is the Italian territory in North Africa between Tunisia and Egypt. It extends southward to include Fezzan and Kufra, and is bounded by the frontier of the French Sahara to the S. and by that of Egypt to the SE. and E.

The official Italian designation for the whole province is Libya. This is not an entirely satisfactory name, for whereas in ancient times the whole of Africa was called Libya, the name has in modern times been applied exclusively to the region immediately west of Egypt. The territory extends along the Mediterranean from a point at or near Ras Ajir to a point N. of the bay of Sollum. It ranges in latitude from 33° to 23° N. The western frontier goes SW. from Ras Ajir to Ghadames; then it makes a great re-entering angle by going SE. and then SW. across the Hammada el Homra till it passes a little W. of Ghat; thence it continues on a course, which is at first sinuous and then straight, along the line determined by the Anglo-French Convention of March 21, 1899, to lat. $19^{\circ} 45'$ N., long. 24° E. Thence the eastern frontier goes northward along the meridian of 24° E. till it leaves that meridian, running in a north-easterly direction, to rejoin the Mediterranean coast in the neighbourhood of Sollum.

The area of the province of Libya is uncertain, owing to the indefiniteness of its frontiers. The estimates vary from 300,000 sq. miles to as much as 550,000 sq. miles. It is probably about 400,000 sq. miles. The extreme length from E. to W. is 940 miles; the breadth from N. to S. is 620 miles.

This vast territory is divided naturally into six or four well-marked divisions. Three along the coast are Tripoli proper, from Tunis to the western part of the Great Syrtis ; Syrtica, the region to the S. of the Great Syrtis ; Cyrenaica (including Marmarica), the great projection between Syrtica and Egypt. In the interior the three chief divisions are the desert of the Hammada el Homra with the oasis of Ghadames ; Fezzan, with its capital Murzuk ; and in the SE. the oases of Kufra, Aujila, and Jalo.

Two of these divisions—the Hammada el Homra and the Syrtica—are less important, and ill defined ; and the former may be conveniently included with Fezzan and the latter with Tripoli proper. The whole province of Libya may thus be divided into four sections, NW., SW., NE., and SE. These four divisions are based on well-marked physical and geological features. Cyrenaica is a high limestone plateau. It is near the coast, so it has more rain and dew than the area to the south, and has a northern belt with trees and scrub ; it has a good soil, is intersected by deep wadis, and has a large proportion of Mediterranean plants.

Tripoli consists mainly of a coastal plain ; its western districts have ample rains, and where the ground affords good water-storage the prolific wells allow the land to be developed as fertile oases. The level is low, and the sea off it is comparatively shallow ; and the level of the land rises slowly in rolling, treeless plains.

Fezzan, the SW. division, is an arid desert area, of stony plateaux and bare downs, with occasional oases. The country is composed of old rocks which give rise to some rough rocky ridges, tracts of sandy desert and abundant sand-dunes. The rainfall in this area being higher than in the eastern, the oases are larger and more numerous than the SE. division, which is mainly desert, in the midst of which are the oases of Kufra.

PART I. TRIPOLI

Tripoli (Ital. Tripolitania) proper, the western division of the former Turkish province of Tripoli and of Italian Libya, lies between Tunisia on the west and Cyrenaica or eastern Tripoli on the east. It has a long unbroken shore line, which extends from the lagoons near the Tunisian frontier past Tripoli to Cape Misurata, where it turns sharply southward to enclose the Great Syrtis. The boundary between Libya and Tunisia¹ reaches the Mediterranean in the neighbourhood of Ras Ajir, in lat. $30^{\circ} 21' N.$, long. $11^{\circ} 40' E.$ The course of the western frontier inland was defined in 1910 as far south as Ghadames, which is within Tripoli. Farther south the frontier is uncertain. According to one view, the frontier line goes south-eastward to the south of Ghadames and then turns sharply south-west, passing to the west of Ghat. Upon this view a large area of western Fezzan belongs to Tunisia. According to another view, the frontier between Tripoli and Tunis continues southward or even bends to the west of south between Ghadames and Ghat, so that the intervening territory is all included in Tripoli.

The southern boundary of Tripoli passes south of Ghat along or parallel to the Tummo Mountains to Tummo or El War ; thence, as determined by the Anglo-French Convention of March 21, 1899, it continues from the intersection of long. $16^{\circ} E.$ with the Tropic of Cancer along a line running east-south-east.

Tripoli consists of four chief geographical divisions, of which the first three run approximately parallel to the coast. These four divisions are :

- (1) The coast zone.
- (2) The *Jefara*, i. e. the plains between the coast and the foot of the hills.
- (3) The *Tahar*, *Jebel* or plateau.
- (4) The depression of Fezzan.

(1) *The Coast Zone.*

A belt of sand-dunes extends along most of the coast. In western Tripoli between the Tunisian frontier and Bu Ajila the dunes are from 30 to 100 ft. in height and from 300 to 700 yards in width. Behind them the ground is but little above sea-level, and includes a series of salt swamps or lagoons (*sebkha*) and oases. To the east of Tripoli, between Tajura and Khoms, the dunes are more continuous and much wider, and as they are constantly moving they have overwhelmed any *sebkhas* that may formerly have existed. Near Khoms, for about 6 miles, the coast is formed by hills which rise to the height of 1,000 feet. East of these hills, the dunes again form the shore line. On the western side of the Great Syrtis the dunes occur as a narrow ridge between the sea and the vast dried lagoon known as the *Sebkha Tawerga*.

Behind the coast-dunes is a broken line of oases which include the most important settlements and land in Tripoli. The oases are watered by prolific wells. The water is often of good quality, though sometimes brackish.

The first of the oases in order from west to east is that of Zwara near the Tunisian frontier. It is two miles long by half a mile in width. The oasis at Bu Ajila is about 5 miles long and 3 miles wide ; it contains extensive palm groves and fields of barley. The oasis of Zawia is one of the most fertile in western Tripoli ; it is about 4 miles wide and has extensive plantations of palms and fruit-trees, and cultivation of barley and vegetables. Then follows a series of smaller oases, Jeddaim, Lemaya, and Sayad, followed after a little by the important oasis of Zanzur, one of the most luxuriant in Tripoli. It is connected by railway with the city of Tripoli, which is situated in the extensive oasis known as the *Mensha*. This oasis is continuous eastward to the oasis of Tajura. After an interval occupied by extensive sand-dunes and the hills of Khoms, there follow the two extensive oases of Zliten, 12 miles long by 2 miles wide, and farther east the still larger and more populous oasis of Misurata.

♦

(2) *The Jefara.*

South of the coast-belt lie sandy arid plains which extend inland to the foot of the *Jebel*. Most of the *Jefara* is barren ; it contains numerous scattered oases, which Mathuisieulx has estimated as not one-thousandth of the total area. The *Jefara* consists mainly of wide sandy plains with scattered sand-dunes and occasional low, rocky hills. It is roughly triangular in shape, has an area of over 5,000 square miles, and is in places 60 miles wide. The plains rise gradually with a mean slope of 3 per thousand from sea-level to the height of about 1,000 ft. at the foot of the hills. Along its southern edge are great delta-fans formed of material washed down the wadis. This ground is often covered with vegetation of almost tropical luxuriance.

♦

(3) *The Tahar, Jebel, or Main Plateau of Tripoli.*

The *Jefara* is bounded to the south by the high cliffs which form the northern scarp of the main plateau of Tripoli, a continuation of the plateau of eastern Tunisia. It is divided into four chief divisions—the *Jebel Nefusa* near Nalut in the west ; *Jebel Yefren* from Zintan to Kasr Yefren ; *Jebel Gharian* to the south of Tripoli ; and *Jebel Tarhuna*. It ends to the NE. in the *Msellata* and the hills to the south-west of *Khoms*. To the south-east the *Tahar* continues through the wide plateau of the *Orfella* region, sloping eastward and draining into the *Sebkha Tawerga*.

The mountains form essentially one continuous plateau ; though the *Jebel Yefren* is divided from the *Jebel Gharian* by a wide depression. The whole northern edge of the plateau is intensely dissected by numerous wadis, in which the streams only flow occasionally during winter. The *Jebel Yefren* is the most dissected, and is so mountainous in form that it has been described as resembling the Alps ; but owing to the character of the rocks and the poverty of the vegetation, which is usually confined to small oases on the floors of the valleys, the country is more justly compared with Arabia

Petrea. The average height of the plateau is estimated at 2,000 ft.; it rises in places, as in the extinct volcanic peak of Jebel Takuk (Tekuk or Tekut), to the north-east of Gharian, to the height of 2,800 ft.

From the northern edge of the plateau the level generally descends slowly towards the interior, and its surface is occupied by great stony plains such as the Hammada el Homra in south-western Tripoli, a red, stony and arid plateau 40,000 square miles in area. Plains covered with small pebbles are known as *Seghir*. Farther south the Hammada gives place to sand-dune country or *Edeyen*.

The central part of the plateau must have been originally drained by rivers which flowed eastward into the Great Syrtis. Such are the Wadi Sofejin and Wadi Zemzem, which must have carried the drainage from the southern area of the Jebel Gharian into the great lagoon or *Sebkha* of Tawerga.

Farther south the level rises again to the ranges which form the southern boundary of the Hammada. The most important range is the Jebel es Soda or 'Black Mountains', which are crossed by the direct route from Tripoli to Murzuk. At their western end, east of the Wadi Haeran, they rise in the Nabet ed Diruj to about 4,300 ft. Their continuation westward is known as the Jebel Welad Hassan and eastward as the Jebel Moraiye. Then, turning SE., they subdivide eastward into the Jebel Haruji es Soda, to the NE. near Sella, and the Jebel Haruji el Abiad (see glossary).

(4) *The Basin of Fezzan.*

From the scarp of the Jebel es Soda and its continuations the level descends southward to the basin of Fezzan, of which Murzuk is the chief town. Still farther to the south the ground rises again over the scarp of the Jebel Tummo or El War to the plateau of the Sahara.

On the floor of the basin of Fezzan are the important oases of Murzuk (1,640 ft.), Katrun (1,680 ft.), and Tejerri (1,640 ft.). These occupy the floor of what appear to be ancient river valleys discharging north-eastward to the Great Syrtis.

GEOLOGY

The geological structure of Tripoli is still but little known. According to Mathuisieulx, Tripoli consists structurally of a series of successive tilted crust-blocks which trend east and west. Each of them is bounded to the north by a fault scarp, whence the surface slopes downward into the interior. According to this view the country has a terraced structure and the level rises in steps owing to successive faults. The plateau descends precipitously on the south to the Wadi Shiyati, the northernmost depression of Fezzan, so that its southern edge also may be due to earth-movements.

The oldest rocks in Tripoli occur to the south-west of Ghat. Here an outcrop occurs of the crystalline Archaean rocks which constitute the main foundation of the Sahara.

Most of Fezzan is composed of Palaeozoic rocks, which occupy most of the country south of 28° N. and west of 18° E. The age of most of these rocks has not yet been precisely determined; but they include representatives of Silurian, Devonian, and Carboniferous.

Northern Tripoli consists mainly of Cretaceous rocks which extend southward from the coast at Khoms through the plateau and the *hammada* to about lat. 28° N. The Cretaceous rocks include Albian, Cenomanian, and Senonian; they are mostly limestone and contain beds of sandstone, clay, and dolomite. Among their interesting fossils is the *Foraminifera loftusia*, which was originally described from western Persia. In the Jebel Gharian and some of its northern foot-hills are Triassic beds including quartzites, dolomites, and limestones; they are exposed near Azizia; their upper limestones include beds formed of calcareous algae. The Jurassic System is represented in the same district by some chert-bearing limestones.

Along the coast near Khoms and Zliten are some marine Miocene limestones. Some Pleistocene limestones fringe the coast and contain abundant *Pectunculus*, *Cardium*, and other shells; from these deposits are derived the chief constituents of

the coastal calcareous dunes. Recent volcanic rocks, including basalts, form the summits of Jebel es Soda, the volcanic hill of Jebel Takuk near Gharian, and other hills on the plateau.

Minerals.

The indications of mineral wealth are unimportant. Salt was at one time largely produced from the *sebkhas* along the coast ; and soda is obtained from salt lakes and deposits in the interior. Sulphur mines, which have been worked occasionally during the nineteenth century, occur in the Cretaceous rocks of the valley of Wadi Gatara to the south of the south-eastern corner of the Great Syrtis. Phosphates are the minerals of economic value most likely to be found in northern Tripoli.

WATER-SUPPLY

The prevalent soil of Tripoli is a red calcareous sand. Owing to the widespread occurrence of limestones many of the soils are calcareous. The coastal dunes are often formed of sand composed of carbonate of lime, and as this material is carried inland by the wind it helps the enrichment of the soils. They are generally of good quality, but their value depends entirely upon the water-supply. Both in Roman and recent times cultivation has been practically limited to the floors of the wadis and to the oases. The plains have been left barren or used only for pastoral purposes. The wadis and the oases are watered by the soakage of rain from adjacent higher ground. This water can be obtained by springs and wells. The depth of the wells in the coast zone varies from about 50 to 70 ft., but their depth increases in the higher parts of the Jefara to about 250 ft. Efforts have been made to open flowing wells ; but these have been unsuccessful, though the water is sometimes sub-artesian and rises nearly to the surface. Thus in the Misurata oasis water from a bed sometimes 270 ft. deep rises to within 7 ft. of the surface.

Near the foot of the Jebel and in the oases the underground

waters rise sufficiently near the surface to be obtained by wells or naturally to feed crops. The oases in the interior appear to occur along the lines of the ancient river systems. The wells are shallowest and most prolific near the coast, where the further downward flow of the water and its escape to the sea is prevented by the impermeable beds on the shallow sea floor. The water collects there in the beds of sand and silt.

Along the northern front of the plateau the rain falls in violent storms and cloud-bursts, and sudden torrents sweep down the wadis and deposit fans of débris at their mouths. The water after these storms soon soaks into the permeable soils, where it may subsequently be used by crops.

The wells are often sufficiently prolific for the irrigation of plantations and gardens, for the watering of flocks, and for domestic purposes ; but the quantity appears to be inadequate for extensive irrigation. Reports by recent Italian commissions represent the conditions as unfavourable for extensive irrigation even by the construction of large reservoirs in the wadis.

FLORA AND FAUNA

The flora of Tripoli is a combination of the European and African. Its characteristic trees include the date-palm, which grows along the coast and in the oases in the interior, and the dum-palm (*Hyphaene thebaica*), which grows mainly inland ; the acacia, the tamarisk, and the mastic grow in the wadis, and the wormwood on the plains of the Jefara. On the *hammada* the only trees are palms and acacias along the wadis and in the oases, with occasional batum trees (*Pistacia atlantica*) on the open plains. The most important food plants, after the date-palm, are cereals, especially barley. Along the coast there are productive orchards of oranges, lemons, olives, and figs ; of which the two last also grow well on the north-eastern part of the Jebel. One of the chief products of the plains near the coast is esparto grass (*Stipa tenacissima*), which is exported for the manufacture of paper. The coastal plains contain many Mediterranean grasses, such as *Dactylus* and

Festuca, also herbs such as *Convolvulus*, *Thymus*, &c., and shrubs such as juniper.

The fauna is very scanty. The rabbit and the marmot represent the Mediterranean element, while the camel, gazelle, ostrich, horned viper, gecko, scorpion, &c., are various types of the African fauna. The most important domestic animal is the camel, though there are also abundant horses, cattle, sheep, and goats.

Sponges, found off the coast, are the most important of the marine animal products. See further, chap. vi.

PART II. CYRENAICA

The term Cyrenaica is now generally adopted for the whole of the plateau country between the Great Syrtis on the west and the Egyptian frontier. It is here taken to include the coast from Sollum westward to the mouth of the Wadi Faregh. Its southern margin is indefinite, and may be taken as the foot of the slope southward from the plateau. The southern oases, Sella, Aujila, and Jaghub, more naturally belong to the south-eastern deserts, and are therefore described in the chapter on Oases; while the Wadi Faregh is a natural limit to the south-west, as it leaves the whole of the desert south of the Syrtis in one geographical division.

Cyrenaica, as thus defined, consists essentially of the high limestone plateau which causes the northern projection of Africa between the Syrtis and Egypt. The country may be regarded as composed of three parallel belts, which extend east and west. They are the coast belt to the N.; the plateau; and the southern slope to the desert.

(1) *The Coast Plain.*

The coast plain is widest in the district of Benghazi. To the S. of that city it is 30 miles wide; due E. of Benghazi to the old castle of Kasr Ismail it is 15 miles wide. Farther to the NE. opposite Deriana it is reduced to 9 miles; and

thereafter the coast quickly approaches the foot of the plateau, so that the coast plain is only about half a mile wide. It continues of about the same width to Tolmita, and a little to the NE. it disappears. Thence along the northern coast the coast plain may be absent or represented by occasional detached areas about half a mile across, as at Marsa Susa. It is wider and more continuous around Derna, but disappears farther to the east.

In Marmarica the coast plain is usually 20 miles wide. It is broken again near Ras el Melh, and above Sollum a plateau 500 ft. high runs almost to the shore. In western Egypt E. of Sollum it becomes again broad and continuous; and S. of Sidi Barrani it is nearly 30 miles wide to the foot of the Taref mountains. Eastward it narrows to 20 miles S. of Marsa Matruh.

The coast plain consists of storm beaches and sand-dunes along the coast. It includes extensive lagoons and sheets of salt-charged clay on the floors of dried lagoons; of beds of sandy limestone containing abundant cockle-shells (*Cerastoderma edule*), and of delta fans, composed of material washed down the ravines and gulleys from the plateau.

The coast plain contains little permanent fresh water. Brackish water can always be obtained from the beach sands; and on the plain above sea-level are many wells which run dry in dry seasons.

(2) *The Plateau.*

The coast plain is bounded to the S. by the abrupt face of the Cyrenaican plateau. The plateau is divided into two chief sections: western Cyrenaica, the Jebel Akhdar (the Green Hills), which extend from Benghazi to Bomba; and the eastern section or Jebel Akbar (the Greater Hills), from Bomba through Marmarica to the bay of Sollum.

Various sections of the mountain front have different names. The scarp due east of Benghazi is known as the Jebel Dakar; behind Tokra the scarp is exceptionally straight and steep,

and it is there known as the Jebel Erkub, by which the level rises at once to the height of about 1,150 ft. as at Telguma. The level behind Cape Tolmita is at the height of 1,000 ft.

Thence along the northern front as far as Ras el Hillal the scarp becomes much higher, and rises at Cyrene to 2,000 ft.; in that district the land rises in two steps, owing to the existence of a platform at the level of about 1,100 ft. Upon this platform are various areas irrigated by the springs discharging from the upper cliff, behind which the land ascends slowly as undulating downs till it attains its greatest height of 2,500 ft. between Ghegab and Slonta.

East of Bomba the level of the plateau is lower and it continues as the Jebel Akbar. The E. side of the bay of Sollum is steeply overlooked by the Akabet el Kebir and the escarpment running thence N. to Ras el Melh; at Sollum the plateau leaves the coast and its scarp trends inland SE. as the Hagag es Sollum. After a course of about 30 miles it bends eastward as the Taref Mountains, the northern face of the Libyan plateau, which extends nearly to Alexandria.

On the southern side of Cyrenaica the slopes are usually so gentle that the position of the edge of the plateau is indiscernible and the northern boundary of the desert therefore ill defined. In places the slopes are sufficiently definite to have been given special names, such as the Jebel Abid, which extends east from Abiar to Jerdes, whence it continues NE. to Marawa. A second hill line to the N. of the Jebel Abid passes Bu Sema and Jerdes and is known as the Jebel Dahan.

The width of the Cyrenaican plateau to the west from Tolmita to the SE. is nearly 40 miles; from Marsa Susa through Cyrene to the line represented by some authorities as the edge of the plateau S. of Kasr Samalus is 95 miles. The main plateau of the Jebel Akbar in Marmarica is also narrow: but the whole Libyan plateau from Bagbag, east of Sollum, to the north of Siwa is about 110 miles across. Still farther east on the line S. from Marsa Matruh to El Kattara the width is 55 miles.

The height of the plateau is apparently greatest to the N. or NE. of Slonta, where it rises to 2,500 ft. The levels in the western districts are lower ; thus the plains around Merj are at the level of 850 ft. ; its northern edge above Tokra is at the level of 1,140 ft., which is also that of the plains of Silina about Smuta. The plateau at its NW. corner near Cape Tolmita is 1,000 ft. above the sea. At Cyrene the plateau above the edge of the upper cliff is at the level of 2,000 ft., whence the land rises gradually southward to the main watershed near Slonta.

Along its northern margin the plateau has been dissected by streams flowing down the steep scarp to the sea. The valleys cut by these streams are usually short deep ravines or gulleys. In some districts, as near Tokra, the valleys simply notch the upper edge of the scarp and form hanging valleys. Some of the larger wadis have been cut down nearly to sea-level, as east of Benghazi, at Marsa Susa, and Derna.

The valleys have, however, so deeply dissected the northern margin of the country that its plateau character is there obscured. Farther south these northern valleys soon become shallow depressions or disappear, and the plateau surface consists of gently undulating downs. Still farther south the undulations become still gentler and the country consists mainly of wide rolling plains, which descend gradually to the southern plains.

The aspect of the country depends mainly on the characteristics of its constituent rocks. The harder limestones form rough ground with abundant areas of bare limestone, and soil occurs in patches in shallow depressions. Some of the limestones weather to stony moorland. The softer chalky limestones give rise to wide plains as at Merj ; these plains are often floored with sheets of alluvium, which constitute the best agricultural land in the country.

Some of the basins inland have no outlets to the sea, and thus, after wet seasons, contain lakes, which gradually dwindle to salt swamps or dry up completely. Among the

more important of these lakes is Lake Gharij, to the NE. of Merj, which is sometimes 7 miles long and sometimes completely dry. Another large depression, the Wadi Jeraib, between Merj and Cyrene, is usually represented as a closed basin with a lake sometimes 7 miles long on its lowest part, but the deep valley known as the Wadi Gherib beside Kasr Benijdem is probably the outlet from this basin.

GEOLOGY

The structure of Cyrenaica, the distribution of its water, and the character of its soil depend on its geological composition.

The oldest rocks known are Eocene limestones, E. of Benghazi; above these in order come Marsa Susa and Derna limestones (soft, white, chalky rocks) and the brown Slonta limestones which form the bulk of central Cyrenaica (all Eocene); Cyrene limestones (Oligocene), Guba limestones at Guba, near Benghazi, and in Marmarica (Miocene), and sands, alluvions, &c. (Pleistocene). There are no igneous rocks.

The limestones are mostly nearly horizontal: they are often inclined at a low angle, and this dip is usually to the S. Near the coast the dip is sometimes northward, and occasionally, as near Tolmita, there may be a steep dip toward the coast.

The extent of the plateau is determined to the N. by a series of powerful faults, by which the former extension of the plateau has been dropped beneath the Mediterranean. These faults range SW. to NE. from east of Benghazi to the coast at Tolmita, where the Tokra Fault Scarp forms the NW. face of the plateau. Along the northern coast, from Tolmita nearly to Alexandria, the chief faults trend E. and W. There is a series of N. and S. faults, by which the northern face of the plateau is thrown in successive steps to the S. Such faults form the bays to the east of Ras el Hillal, the bays of Bomba and Sollum, and Abu Shaifa

Bay east of Marsa Matruh, and Kanais Bay, east of Ras el Kanais.

The main slope of the plateau is to the south and the original drainage was doubtless in that direction. The watershed has moved southward as the wadis which discharge northward have cut their heads farther to the south. The original main drainage was doubtless to an arm of the sea, which in Pliocene times occupied the lowland country between the Great Syrtis through Aujila to Jaghbub and Siwa. The southern drainage of the highland south of Derna and Cyrene has since been collected by the wadis Temime and Samalus.

Minerals.

There appear to be no known minerals of commercial value in Cyrenaica. The limestone affords abundant building material, and can be burnt for lime. The only useful minerals which appear likely to occur are phosphates and nitrates.

Soils.

The soils due to the decomposition of the limestone are light, rich soils. Owing to the aridity of the country the soils are poor in nitrogen, but are well supplied with potash and phosphoric acid. The soils are, however, often thin, and in many parts of the country occur in patches between bare outcrops of limestone.

WATER-SUPPLY AND WELLS

Owing to the extreme porosity of the rocks the rainfall readily percolates so deeply underground that most of the wells run dry in dry seasons. Where layers of clayey or impermeable limestone are interbedded with the main rocks, as near Cyrene and around the Wadi Umzigga near Guba, these layers cause the most important springs in the district, and support the most reliable wells. But owing to the steepness to the sea to the N., the depth of the wadis, and the

permeability of the rocks, most of the northern belt of Cyrenaica is drained so thoroughly that permanent springs are comparatively scanty.

Yield of the Springs.

In the summer of 1908 (an exceptionally dry season) the yield of various springs and wells was determined by Duff as follows :

Derna : Bu Mansur . . .	3,000,000 galls. a day measured. ¹
Derna : Seghia . . .	3,000,000 galls. a day estimated. ¹
Mug Adak . . .	7,000 galls. a day estimated.
Barak . . .	very small.
Guba . . .	29,000 galls. a day measured.
Cyrene : Fountain of Apollo	84,000 galls. a day measured.
Cyrene : Ain Bu Ghadir .	13,000 galls. a day measured.
Ain Hafra . . .	80,000 galls. a day estimated.
Messa (3 springs) . . .	negligible
Messa (well) . . .	10,000 galls. a day estimated.
Marsa Susa (spring) . . .	80,000 galls. a day estimated.

¹ The amount of water falling over the cascade in the Wadi Derna was then so small in comparison to that shown by photographs, that the yield of the springs then was doubtless very much smaller than usual.

CHAPTER II

CLIMATE

THE climate resembles that of the Sahara. There are two seasons : the hot or dry season lasts from May to October, the cold or rainy season from November to April. Rain never falls during the dry season ; but in May and June the air still contains a good deal of moisture, and heavy dews are formed, which keep the vegetation fresh. About the end of June these come to an end, and all vegetation outside the limits of the oases dies till the early rains begin in October, increasing by degrees till the maximum in November, December and January.

Temperature.

Though Libya is an extremely hot country, the effect of its high temperature on health is discounted by the fact that during the hottest season the atmosphere is dry. This is true even of coast towns such as Tripoli ; but it applies even more clearly to the hinterland, e.g. Fezzan, where the atmosphere is as dry as that of the Sahara, and in consequence the high temperatures can be borne without serious inconvenience.

In Fezzan, moreover, and to a less extent on the Tripolitan Jebel, the nights are cold and frost is not unknown. In the hottest weather at Murzuk the thermometer generally goes down to 60° at night ; during the cold weather it never rises above 75°, and often goes down to freezing-point. This cold weather lasts from the middle of December to the end of January. On the high plateau west of Ghat the nights are decidedly cold even in the summer.

TEMPERATURES (FAHRENHEIT) IN 1914

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Tripoli :												
max. .	72	77	85	93	101	99	113*	94	91	90	82	73
mean .	53	56	61	63	69	73	78*	78	76	70	64	57
min. .	38	45	47	46	59	61	57*	68	63	56	50	43
Zwara :												
max. .	77	76	90	95	104	97	118	115	101	92	90	75
mean .	53	57	62	65	72	76	79	78	73	70	63	55
min. .	31	41	42	42	51	57	59	54	43	41	43	38
Azizia :												
max. .	71	82	90	96	104	113	120	118	106	95	96	79
mean .	54	54	63	68	78	85	87	88	83	77	70	58
min. .	41	32	37	45	54	58	59	69	60	52	43	37
Tarhuna :												
max. .	57	72	88	99	105	117	115	114	100	?	81	73
mean .	50	55	59	66	72	77	82	82	76	?	62	54
min. .	32	37	41	39	50	48	57	59	53	?	46	37
Gharian :												
max. .	69	75	83	96	103	112	107	107	93	82	74	65
mean .	46	50	57	64	72	77	78	78	72	64	55	47
min. .	34	36	36	37	47	50	50	56	50	49	41	37
Ghadames :												
max. .	73	78	92	102	109	118	117	112	105	98	?	?
mean .	51	56	63	72	84	92	92	89	78	76	?	?
min. .	30	36	38	46	57	62	65	66	45	56	?	?
Benghazi :												
max. .	?	?	79	?	98	102	88	93	89	85	83	77
mean .	?	?	65	66	73	77	76	77	77	71	66	59
min. .	?	?	?	?	?	68	66	68	66	59	48	?
Derna :												
max. .	72	89	79	?	101	109	91	104	95	90	82	?
mean .	58	58	61	?	71	75	77	79	77	72	66	?
min. .	44	46	46	?	53	59	64	66	63	55	50	?
Tobruk :												
max. .	?	?	?	?	113	?	?	?	?	?	?	?
mean .	?	57	60	?	69	?	77	75	76	71	64	59
min. .	?	?	?	?	?	?	?	?	?	?	?	?

* Temperatures at Tajura ; Tripoli would be about 2° lower.

These figures for mean temperature agree closely with the averages of the observations taken at Benghazi and Tripoli over a period of years.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
	° F.	° F.	° F.	° F.	° F.	° F.	° F.	° F.	° F.	° F.	° F.	° F.	° F.
Benghazi	56.1	58.1	63.1	66.5	71.2	75.9	78.0	79.2	77.7	73.6	64.2	59.5	68.6
Tripoli	53.7	55.6	59.5	64.4	68.7	74.3	78.4	79.4	78.0	73.7	65.4	57.4	67.4

According to the observations the daily maximum at Tripoli was generally reached between 9 and 11 a.m.; after 11 it generally decreased under the influence of sea-breezes. The maxima attain their highest level sometimes as early as June or even May; but the minima continue to rise till September, and this is often the hottest month of the year.

The mean temperature varies approximately inversely as the rainfall; that is to say, it is higher in the east than the west, and higher inland than on the coast. The Jebel, as it has a higher rainfall than the plains at its foot, has a lower temperature.

Rainfall.

The total mean rainfall is practically equal to that of the drier parts of Italy; but differs in being concentrated over a few months of the year.

RAINFALL IN 1914 (inches)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Tripoli	2.26	1.27	0.37	0.18	0.01	—	—*	—	—	0.41	3.55	1.06	9.11
Zanzur	1.57	0.90	0.03	?	—	—	—	—	—	0.19	2.72	1.06	5.28†
Zwara	1.46	2.71	0.17	0.03	0.01	—	—	—	—	1.93	3.43	3.65	14.40
Azizia	0.63	0.98	0.11	0.57	0.39	—	—	—	—	0.66	0.71	4.71	7.76
Kusabat	2.64	3.18	0.78	0.84	0.05	—	—	—	—	0.07	1.67	4.11	13.34
Tarhuna	2.60	2.22	1.91	0.47	—	—	—	—	—	?	1.41	2.71	13.32†
Gharian	0.76	1.24	2.66	0.23	0.08	—	—	—	—	—	0.07	1.04	5.08
Yefren	0.87	1.13	0.54	?	—	—	—	—	—	0.22	0.75	—	3.56†
Nalut	0.86	0.90	0.94	0.66	—	—	—	—	—	0.35	0.31	5.16	5.18
Ghadames	?	0.37	0.01	?	—	—	—	—	—	—	?	?	?
Benghazi	1.18	0.85	0.36	0.06	—	—	—	—	0.02	0.02	1.48	1.39	5.36
Derna	1.67	0.96	0.41	0.20	—	0.26	—	—	0.03	0.86	2.20	0.53	7.09
Tobruk	?	?	?	?	—	?	—	—	?	?	?	?	?

* Figure for Tajura.

† A month or more missing from the total.

Mean values for rainfall can be given for only two stations, Benghazi and Tripoli.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Benghazi	3.21	1.31	0.78	0.12	0.13	0.00	0.01	—	0.07	0.38	2.10	2.89	11.00
Tripoli	3.69	2.08	0.97	0.58	0.28	0.06	0.02	0.07	1.47	1.54	2.33	4.48	16.57

These indicate that in the year 1914 the rainfall was somewhere about 50 per cent. of the normal at the two places, and this may fairly represent the general condition.

For comparison with the 1914 table the observations for 1915 are appended. They are, however, too fragmentary to yield any valuable deductions.

RAINFALL IN 1915

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Tripoli	0.98	1.24	0.62	0.22	0.05	0.18	—	—	0.48	?	0.28
Tajura	0.96	1.68	0.81	0.92	—	—	?	?	?	?	?
Khoms	0.85	1.85	?	0.52	?	0.45	?	?	?	?	?
Zanzur	0.43	2.10	0.53	0.43	0.10	?	?	?	?	?	?
Zawia	1.75	1.38	0.59	0.59	—	?	?	?	?	?	?
Zwara	0.47	2.56	—	0.76	0.09	?	?	?	?	?	?
Azizia	1.32	1.25	0.53	0.63	0.31	0.16	?	?	?	?	?
Kusabat	3.15	3.74	0.29	0.79	0.22	?	?	?	?	?	?
Gharian	—	1.42	0.19	—	—	?	?	?	?	?	?
Yefren	—	1.22	0.10	2.20	0.06	?	?	?	?	?	?
Nalut	—	1.65	0.12	3.66	0.31	?	?	?	?	?	?
Misurata	2.13	1.93	0.13	0.31	—	?	?	?	?	?	?
Zliten	1.02	?	0.24	?	?	?	?	?	?	?	?
Benghazi	2.87	3.05	0.17	?	0.24	—	—	—	—	0.02	0.29
Derna	0.96	1.44	0.22	0.21	—	0.02	—	?	0.31	0.13	0.43
Tobruk	?	?	?	0.38	—	—	—	—	0.13	—	0.45
Ain Mara	2.98	?	0.13	0.53	—	0.24	—	—	?	?	?
Rejma	5.41	4.88	0.39	0.26	?	?	?	?	?	?	?
Cyrene	0.82	1.55	0.58	0.38	—	0.12	—	0.13	0.14	0.04	0.48

The rainfall is, broadly speaking, more abundant in the western regions and nearer the sea. Thus Cyrenaica has a markedly smaller rainfall than Tripoli, and at such places as Azizia, 30 miles inland, the rainfall is lower than on the coast. In the Jebel, on the other hand, the rainfall is naturally high, and in the same way it is probably higher on the Cyrenaican plateau than at seaports such as Benghazi, Derna, and Tobruk. At Tobruk, though no detailed figures are available, the rainfall is known to be extremely low, and this, coupled with the total absence of other water-supply, makes the development of Tobruk as a port a matter of great difficulty.

On account of the distribution of the rainfall, heavy floods sometimes occur both in Tripoli and in Cyrenaica. Thus in February 1904 a severe flood in the suburbs of Tripoli destroyed 500 houses and caused 150 deaths. In December 1900 the Wadi Gatar and the Wadi en Nahr overflowed their banks and inundated the plain of Benghazi, where they did

great damage to live stock and houses at Berka, Fweihat, &c. In the latter case a great improvement of the crops was observed in the following summer. In general, however, better agricultural results are obtained if the rainfall is evenly distributed over some months.

Hail is rare. It seldom occurs at Tripoli more than two or three times in the year, and almost always in November, December, January, or February, that is to say, the most rainy months. It is always mixed with rain, and never does any damage worth mentioning.

Clouds.

The following table shows the proportion of clear to overcast days at Tripoli. It will be seen that completely overcast days are rare at every season of the year, and entirely absent from June to September ; and that during July and August practically every day is cloudless.

	<i>Jan.</i>	<i>Feb.</i>	<i>Mar.</i>	<i>Apr.</i>	<i>May</i>	<i>June</i>	<i>July</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
Clear days .	10	10	12	12	13	20	25	24	18	12	10	9
Partly overcast . .	18	17	18	17	17	10	6	7	12	18	19	20
Overcast .	3	1	1	1	1	0	0	0	0	1	1	2

Clouds appear as a rule in the morning, and are often very dense. They comparatively seldom last into the afternoon.

Winds.

The commonest wind at Tripoli is the NE. This is most frequent in the summer months, and comparatively rare from November to February. With it are associated N. and E. winds. The NW. wind is common at all times of the year, and predominates about February. The SE. is rather less common, but is also evenly distributed over the year. The remaining winds, S., SW., and W., form a group which predominate in the winter and are rare in the summer.

At Tripoli therefore the prevailing winds are : in summer, N., NE., and E. ; in winter, S., SW., and W. NW. winds and to a less extent SE. winds may occur at any time of year.

The mean velocity of the wind is greatest in April, and declines till July is reached, when it remains at a minimum till November, and begins to rise again in December.

At Benghazi by far the commonest wind is the N. (*bahri*), and during the summer this is practically the only wind that blows. It tends to lower the temperature and to raise the level of the shallow bays and salt marshes round the town. During the spring and autumn the N. is still the prevailing wind, but S. winds (*gibli*) are common at both these seasons. The *gibli* dries up the marshes and purifies the air. W. winds (*gharbi*), bringing rain, are also common at these seasons. In the winter the S. wind prevails, followed by the W. and N. The SE. (*sharki*), which is moist and unhealthy, may blow at any time of year, but oftenest in the winter and autumn, and hardly ever in the summer. The exceptionally high temperatures in May and June at Tripoli and Benghazi occur in connexion with the passage of depressions over northern Africa and the occurrence of southerly winds.

Storms are not common. They occur most often in September, October, and November ; in December, January, and February they are rare ; in March, April, and May they are more frequent again, but less so than in the autumn ; and in June, July, and August they are practically unknown. The average number is about eight in the year, of which about half occur in the autumn months.

CHAPTER III

POPULATION

1. RACES

TRIPOLI and Cyrenaica are inhabited by a population containing two main elements: Berbers (Hamitic) and Arabs (Semitic).

Berbers.—The aboriginal population of Northern Africa consists of Berbers. The name Berber, or Barbarian, was first applied by the Romans to the Libyan branch of the Hamitic race, a race now distributed over the whole of Northern Africa, though mixed in the north and east with Semitic, and in the south with negro elements. The earliest account of this race comes from the ancient Egyptian records of wars against the Libyans. The sculptures and paintings of Libyans from this source show a white race with somewhat aquiline features, scanty beard, and blue eyes. These characteristics reappear to-day most clearly in certain of the Tuareg; the Berbers in general are now of a darker complexion, but otherwise unaltered.

Arabs.—The Arabs have been established in Libya ever since the conquest of that country in the seventh century by the Moslems. A second Arab invasion took place in the eleventh century, when the entire country was overrun and laid waste by the robber tribes of the nomadic Beni Hillal. The Arabs gained complete command of the coastal regions, but never penetrated very far inland; and even the tribes which claim to be of pure Arab descent are freely mixed with Berber blood. This is especially true of the western regions, the Arab stock becoming progressively purer towards the east.

Differences between Berbers and Arabs.—It is at first sight difficult to distinguish between Berbers and Arabs, especially in the coastal region, where the stocks are much mixed. Both have dark skin, oval face, aquiline features, hair usually black and straight (never woolly as in negroes). In general the Berber is more thick-set and powerfully built than the Arab, and is marked by the size of his upper front teeth and a horizontal furrow across the forehead; in the Arab the chin is generally receding and the face altogether slighter in build. Morally the Berber is distinguished by greater industry and patience, as is natural in the race which once enjoyed a comparatively high degree of civilization, while the Arab of North Africa has never been more than a nomad.

The majority of Arabs are nomadic and pastoral, living in tents and having little wealth besides their flocks and herds, though they generally practise agriculture and gather dates in various oases which they visit for these purposes at the appropriate seasons. The Berbers, on the other hand, are predominantly sedentary and given to cultivation, living in permanent houses, whether stone-built or (as in parts of the Tripolitan Jebel) underground. This criterion must be applied with caution, as some Arabs are practically sedentary and nomad Berbers are not unknown; the most conspicuous instance being the Tuareg of the desert south of Tripoli, and their eastern neighbours the Tebu, who are entirely nomadic. These desert tribes have none of the industry characteristic of the northern Berbers; they subsist almost entirely on robbery.

Language also serves to distinguish the two races. All Arabs speak Arabic, while the Berber language (known in its purest form, i. e. among the Tuareg, as Tamahek) is spoken in one dialect or another by most of the Berber tribes. Since, however, the Arabs are the conquering race there is a tendency for Berber tribes to adopt Arabic and to claim Arab descent rather than vice versa, while the universal domination of Mohammedanism tends to spread the language of the Koran.

Distribution of Berbers and Arabs.—Cyrenaica is peopled by Arab tribes, and the Berber element in these, though not entirely absent, is so small as to produce little effect in their physique or habits. Thus, apart from the coast towns and the inland village of Merj, there are no stone houses in Cyrenaica except Senussi *Zawias*. The oases to the south (Aujila, Jalo, Siwa) are, however, chiefly peopled by Berbers, and the deserts south of these are occupied by the Tebu, who, from their centre in the Tibesti mountains, have spread considerably over the Libyan desert and were the only inhabitants of Kufra before it was settled by the Senussi.

In Tripoli the Berbers have been pushed into the Jebel by the Arab invaders. Hence the inhabitants of the plain and coast are Arab, though Berber elements exist among them in greater profusion than in Cyrenaica; while in the Jebel the Berbers are comparatively pure. Even in the Jebel, however, there are more conspicuous Arab elements in the east, in Tarhuna and Msellata; while the steppes further south towards Bu Njem and Jofra are inhabited by tribes (Aulad Bu Sif, Beni Ulid, Gedadfa, Orfella) which claim to be pure Arabs, though they are in point of fact partly Berber.

Pure Berbers become more common W. and SW. of Tarhuna. After Nalut the Arab strain is hardly distinguishable, and about Ghadames the Tuareg territory is reached, where the inhabitants represent the purest branch of the original Berber race.

Along the southern trade-routes the Arabs have penetrated a considerable distance into the interior, and Arab tribes are found in Fezzan, which district, however, they only visit in large numbers for the date-harvest. The permanent population of Fezzan is predominantly Berber with strong negro elements. The same applies to most of the desert oases.

Shurfa, Marabuts, and Kologhli.—Elements in this Arab-Berber population calling for special attention are the Sherif tribes or descendants of the Prophet (plur. *shurfa*), *marabuts* (plur. strictly *marabutin*) or hermits, and *kologhli* or descendants of the Janissaries.

The principal Sherif tribes of Tripoli are to be found at Wadan in the oasis of Jofra, in the Msellata region, and on the coast near Tripoli and Khoms.

The *marabut* tribes of Tripoli, like those of regions further west, trace their descent from individual saints, whose tombs are in many cases still landmarks and objects of veneration. Such tribes often possess a very great religious and therefore political influence over their neighbours; and this influence may generally be assumed as hostile to European ideas and, even more, to European rule. The existence of these tribes has, however, not proved an absolute barrier to the real pacification and administration of Algeria and Tunis by the French; and the same may prove true in Tripoli. It must be observed that the influence of the *marabut* tribes often conflicts with that of the great Confraternities (see § 10, below).

In Cyrenaica the *marabuts* stand in a different and unique relation to their neighbours. Instead of being independent tribes whose difference from other tribes lies solely in their religious status and prestige, they are in Cyrenaica landless groups of families, economically dependent upon the *saadi* or owners of the soil, unarmed and unhonoured, and only protected by the *saadi* in return for the payment of a tax.

The *kologhli* are descended from Janissaries settled in Tripoli, by Berber wives or European women captured by Barbary corsairs. Large groups of them live at Tripoli, Zawia, Khoms, Zliten, and Misurata, and smaller groups at Zanzur, Kusabat, Gharian, &c. They number in all about 45,000.

Jews.—The Jews form one of the oldest elements in the coast towns, but are not found in the interior. It is probable that some of them are descendants of the Jews who are known to have flourished there in the Graeco-Roman period. There is also a number of Spanish Jews who have come from Salonica, Smyrna, and Constantinople, where they had taken refuge from persecution. These are said still to retain the Spanish language.

The Jews of Tripoli and Cyrenaica are a finer type than those of Palestine and Egypt. They avoid mixture with other races, and though nominally despised by the Arabs are in reality looked up to in their capacity of business men, and their advice on business matters is frequently sought.

Negroes.—The negro population of Tripoli and Cyrenaica is very considerable. From time immemorial negroes have been brought by the slave-trade from the Sudan along the various caravan routes to the North African coast, and they are not only found almost everywhere in domestic slavery or settled in their own villages, groups of miserable huts outside the towns, but have influenced the character of the race by cross-breeding. Thus in Fezzan, where this influence is most pronounced, the population becomes progressively more negroid towards the south; in the oases, such as Jofra, Siwa, &c., the dark complexion of the inhabitants is conspicuous, and due to the same cause; and even in the coast towns there are few families without a trace of negro blood.

The negroes of Tripoli and Cyrenaica come chiefly from Wajanga, Borku, Wadai, and the Bantu regions further south. The children who are brought by the slave-caravans are drawn partly from raids on enemy tribes, partly from the sale by parents of their own children. As slaves they are not maltreated, but mingle freely with the families with which they live. The negroes who have been settled for some time in the north have as a rule an admixture of Arab or Berber blood.

2. INHABITANTS OF THE COAST TOWNS AND OASES

The towns and oases of the coast are inhabited by a more or less sedentary population whose basis is Arab. In the large towns the Arabs are mixed with Berbers, Jews, negroes, Maltese, Egyptians, Tunisians, and Algerians, and various European elements. In some cases these elements remain distinct and (as in the case of the Jews) no fusion takes place; but in general the conditions of town life tend to break down racial animosity and consciousness, and a mixed breed arises,

so that the distinction between Arab and Berber hardly applies to such towns as Tripoli and Benghazi. During the Turkish occupation a considerable proportion of Turkish blood was introduced, so that perhaps the majority of town-dwellers have a certain mixture of Turkish blood ; and after the international occupation of Crete a number of Cretan Moslems settled in the towns of the North African coast.

The negroes remain for the most part comparatively pure, inhabiting separate quarters outside the towns ; and there are Beduin encampments near most towns (e. g. in the *mensha* or oasis immediately outside Tripoli) where Arabs of fairly pure descent may be found.

The coastal oases are fertile and, in Tripoli, well watered ; in consequence they provide good centres for a sedentary Arab population, as well as being visited for harvesting purposes by nomad tribes of the desert. Each oasis is divided up into small holdings, and the Arab owners live on their land in huts and have some degree of civil life. These oases generally have a *beladie* or council, an elective body with a president entitled *Rais el beladie*. Each quarter or ward is controlled by a *mukhtar*, an elective officer with administrative functions, and an *imam* or religious leader. The chief local religious and judicial power is vested in the *kadi*.

The town-dwellers wear the *barrakan*, a long cotton or woollen cloak draped so as to cover the head, on which is also worn an embroidered cap. The women, especially those of the upper classes, usually live in seclusion. When they are seen in public they are muffled in shawls, and if they are Moslems only one eye is allowed to appear.

The population lives by commerce and small industries, carried on in the *suks* or market quarters. The common industries are leather-work, carpet-weaving, wood-inlaying, armourers' and goldsmiths' work, and perfumery. The weekly markets are visited by great numbers of countrymen and nomads.

3. INHABITANTS OF THE TRIPOLITAN COASTAL PLAIN

The nomad Arabs of the steppes between the coast and the Jebel differ little in organization, character, and manner of life from other nomad Arabs. Their wealth consists almost exclusively of flocks and herds, and property is, within the tribe, mostly collective. Each tribe is divided into various fractions, which are sometimes (as in the case of the Gedadfa, a division of the Orfella) important enough to be reckoned a separate tribe; generally, however, the divisions are the small units known as *ails*, i. e. groups of families, each containing 6-10 families. Each *ail* has its own *sheikh* or head, and is generally named after him; for this reason the names of *ails* are continually changing, and lists of them rapidly become valueless.

The tribe has a single supreme *sheikh*, who profits by the advice of the *sheikhs* of each separate *ail* and is elected by them from their own number generally on account of his wealth. There is no definite constitutional limit to the power either of the head *sheikh* or of subordinate chiefs; but the system of law laid down in the Koran is regarded as the supreme authority.

The family is strictly patriarchal, and lives by itself in a group of 15 or 20 tents. But in spite of the power wielded by the head of the family within his own tents, the tribe is in everything considered before the individual.

Each tribe has its own territory, beyond which it must not graze its flocks; and similarly the oases in which the nomads sow and reap their crops and gather dates are strictly apportioned to the several tribes. In the case of agricultural land, boundaries are marked, after the sowing, by large stones; it appears that the boundaries of pasture land are less clearly defined, and quarrels over encroachments are of frequent occurrence. It seems that sub-tribes or *ailet* also, like tribes, have each its own territory. This strict maintenance of tribal territory is due to the scarcity of water, which makes

it undesirable that any unauthorized person should use and perhaps damage a watering-place, and secondly to the scantiness of the pasture, which will not graze an unlimited number of beasts.

The stock kept by the nomad Arabs consists chiefly of sheep and goats, and also a breed of small cattle. They have a large number of donkeys of a good breed, and a certain number of strong small horses. Mules are rare. Farther south they breed excellent camels, which are supplied to the caravans.

The grain chiefly grown in the oases by these Arabs is barley and wheat, of which only enough is grown for their own use and that of their beasts.

It is said (Cairo Intelligence Report, 1915) that the Arabs always keep a store of grain and dates sufficient to last them for several years.

The chief tribes of this region are as follows :

The **Zwara** inhabit the NW. extremity of the coastal plain, round Zwara on the coast. The Berber element in this tribe is very large and seems in fact to predominate over the Arab. They inhabit the oasis during the autumn and winter ; some lead a semi-nomadic existence on the steppes when the grazing is best, in the spring. They also carry on a certain amount of commerce. They were formerly warlike and predatory, but the Italians now find them friendly, submissive, and peaceful. They belong to the heterodox Ibadite sect.

The **Nawayil** are the southern neighbours of the Zwara. They are Arabs ; in manner of life they are semi-nomadic, growing considerable quantities of grain, which they sell at Ben Ghardan, their chief market, but living the greater part of the year as nomads. Their country is fertile in the rainy season, but has few watering-places.

The **Ajilat** or **Bu Ajila** is an Arabized Berber tribe inhabiting the plain east of the above tribes, numbering 7,000, and belonging to the Malekite sect. They visit the fertile oasis of the same name to collect the dates, olives, figs, and pomegranates which grow freely there ; otherwise they are entirely

nomadic. Some engage in trade, for which purpose they travel as far as the Tunisian frontier ; the remainder appear to be quiet and unenterprising.

The **Siaan** is a confederation of four *marabut* tribes extending northwards and NE. from the foot of the Jebel Nefusa, and including in its territory the villages of Josh and Shekshuk. They are predominantly Arab and purely nomadic except for these and a few other villages near the Jebel where they own palm-groves. They are described as wild, avaricious, and notorious beggars. As *marabuts* they are often employed as intermediaries to settle disputes between tribes. This work is specially done by their women, who travel long distances to accomplish it and seldom fail to effect a settlement. They are fanatical Malekites, and a traveller in 1902 noted that in the event of the occupation of Tripoli by Europeans the Siaan would naturally become a centre of seditious propaganda.

The **Blaaza** are a numerous Berber tribe settled in the neighbourhood of Zawia. They number about 8,000, and are looked down upon by their neighbours.

The **Urshefana** inhabit the plain about Azizia and Bir el Ghanem, S. and SE. of Tripoli. They are a large tribe of mixed Arab and Berber stock, numbering about 19,500. The Urshefana are semi-nomadic, and their land is partly used for corn and partly for pasture. Though warlike, they have not given much trouble to the Italian administration.

The **Alauna** and **Er Rgheat** inhabit a district lying E. of the Urshefana. They are the remnants of the once important Juwari Arabs, and are semi-nomadic and warlike. To N. of these are a number of small tribes in the Tripolitan Sahel ; to E. lie the **Gmati** and **Mrada** of the Jefara district, turbulent tribes of predominantly Arab descent.

In the district lying behind Zliten the chief tribes are the **Fuwatir**, a Sherif tribe, 18,000 strong, in the E., and the **Amayen**, about the same size, in the S. A number of *kologhli* are found in the W., and *marabuts* of the Aulad esh Sheikh tribe are found scattered throughout the neighbourhood.

4. INHABITANTS OF THE SE. STEPPES OF TRIPOLI AND THE DESERT S. OF THE SYRTIS

The region sloping downwards from the Hammada el Homra to the great Syrtis, drained by the Wadi Sofejin, Wadi Zemzem, and other large wadis running into the *Sebkha* of Tawerga, forms a unit of territory by itself, with which it is convenient to couple the district lying south of the Syrtis and falling partly in Cyrenaica. The tribes here are nomad Arabs of purer blood than the tribes of the Tripolitan plain; for a general description of their life and organization reference may be made to the preceding section.

The northernmost tribe of this series is the **Beni Ulid**, a nomadic tribe, sometimes reckoned as an offshoot or sub-tribe of the Orfella. They occupy the fertile Wadi Beni Ulid, which discharges into the Wadi Sofejin some distance above its mouth, and the surrounding steppes. Their chief centre is Kasr Beni Ulid, an important centre with telegraph, roads to the coast, &c.

South of these are the **Orfella**. They are a very large tribe, over 20,000 strong, and extend SE. as far as Bu Njem. They have a number of fixed settlements, apart from which they are nomadic and keep very large numbers of camels; those in the villages live mostly on trade. They have always been unruly and addicted to brigandage, though apparently peaceful within their own territory; and maintained an independent attitude towards the Turkish Government. Their chief lives at Dwar el Hasra, a village not far from Kasr Beni Ulid.

They resort for the date-harvest to Katrun, in the south of Fezzan, and are much feared for their violent conduct on these occasions.

In race they claim to be pure Arabs, but various indications show that there must be a strong or even predominating Berber element in their stock.

The **Gedadfa** are supposed to be a branch of the Orfella. They live on the lower courses of the wadis Sofejin and Zemzem.

The **Aulad Bu Sif** live west of the Orfella round Si Rashedan

and on the upper course of the Wadi Zemzem. They are a large nomad Sherif Arab tribe, warlike and addicted to robbery, and breeding a fine stock of camels.

The **Aulad Mshashia** are an Arab-Berber tribe occupying Mizda and neighbourhood, and also, according to some authorities, found some distance further to the SE. They are a numerous tribe, with a large number of dependent tribes over whom they exercise authority. They are in continual rivalry for the leadership of this region with the Aulad Bu Sif, and are frequently at war with them. The Turks were inclined to take the part of the Mshashia, who would accordingly be likely to resent a European occupation.

The **Aulad Suleiman** or **Aulad Es Seif** (the latter name apparently derived from that of their capable and energetic chief Seif en Nasr, to whom their present high position of influence is almost entirely due) are the eastern neighbours of the Orfella on the Syrtic coast between Medina es Soldan and Muktar. They are a large and warlike Arab tribe, resembling in many ways the Orfella. Like them, they were hostile to the Turks, against whom they waged a desultory warfare from the middle of the nineteenth century onwards. They formed a rallying-point for robbers and malcontents. Like the Orfella again, they visit the oases of Fezzan for the date-harvest.

5. INHABITANTS OF THE TRIPOLITAN JEBEL

The Jebel from Nalut to Kusabat is inhabited by Berbers, containing, especially in the east, some Arab elements, but for the most part of fairly pure race. They are subdivided into a great number of small tribes, united not so much by blood, as in the case of the Arabs, as by the occupation of one group of villages. The larger tribes, such as are described below, are rather confederations of villages than closely united and organized tribes.

In language, manner of life, and character they differ widely from the Arabs. They are a sedentary population, living in stone houses, or in houses excavated under ground; each

village of importance or group of villages has a *kasr* or fort for defensive purposes, and this *kasr* formed the natural nucleus for the Turkish or Italian administration ; so that in many cases it is now occupied by a Resident, garrison, offices, &c.

The Berbers practise agriculture on the scanty but fertile soil of the Jebel, which they terrace with stone walls and plant with cereals, fruit-trees, &c. Olives, figs, and pomegranates grow well. They also keep live stock.

In the neighbourhood of the Tunisian frontier are the **Aulad Mahmud**, an immigrant tribe living at the village of the same name, 6 miles SE. of Nalut, and the **Hawamed**, a tribe formerly much employed by the *kaimmakams* of Ghadames as frontier-guards, escorts, &c. They inhabit a group of villages 10 miles E. of Nalut. Further E. is the Arab-Berber tribe of the **Haraba**, inhabiting some ten tiny villages.

The district of Jado, E. of the foregoing region, is chiefly inhabited by two small Berber tribes, both Ibadites. These are the **Rojeban** in the E. and the **Rehibat** in the W., numbering about 3,600 and 2,800 respectively. Both tribes make and sell millstones, and grow olives, supplying their nomadic neighbours with a small quantity of oil. Their land is extremely poor.

The **Nefusa** Berbers inhabit the Jebel Nefusa about Zintan, which is their chief village. They seem to be absolutely pure Berbers, and no marriage with an Arab or other race has been recorded. The blonde type of Berber with blue eyes is in consequence still seen among them. They were once Christians, but are now fanatical Moslems, refusing either to smoke or to drink tea, an indulgence countenanced even by the Şenussi. They have a ballad literature recounting the exploits of tribal heroes, and their patriotic spirit is very marked ; they have always cherished a hope of recovering their national liberty from the Turks.

The **Zintan** are Berber in origin, but in habits Arab ; they are semi-nomadic in life and Malekite in religion, while they

speaking Arabic with a Berber accent. They extend S. and SE. from the village of Zintan along the upper Wadi Sofejin to the neighbourhood of Mizda.

They are a powerful and independent tribe, brave, warlike, and predatory, and allies of the Tuareg; they travel a good deal on the Zintan-Derj route and also to Fezzan, which they visit for the date-harvest. Their country is poor, but grows a few figs, olives, and palms.

The original inhabitants of the Yefren district were Yefren Berbers of the indigenous stock; but at the time of the Arab invasions their country was occupied by Nefusa Berbers expelled by the Arabs from the coastal region. The present-day **Yefren** accordingly consist in great part of Nefusa elements. They are Ibadites, and live a sedentary agricultural life, employing Arabs to do their pastoral work. They have underground granaries, and apparently lived underground once, like their neighbours the Gharian, but do so no longer. They have a number of villages, generally built in strongly defensible situations. They are brave and spirited and said to be capable of undertaking serious guerrilla warfare in their mountain country.

The **M'hamid** are an Arab tribe inhabiting the N. slopes of the Jebel below Zintan and Yefren. They represent the remains of an ancient and powerful tribe which conquered the Jebel Nefusa in the fourteenth century. The tribe was broken in its attempt (1835-55) to resist the Turks, and the majority fled S. across the Sahara.

The **Gharian** Berbers, E. of the Yefren, contain Arab elements, but in habits are entirely Berber. They live in underground dwellings, each room containing one family. These rooms are grouped round courtyards open to the sky, and are reached by spiral passages. Their cattle share the underground dwelling with their masters. They have a considerable oral tradition of tribal history, kept by their women. The total population is about 30,000.

The district contains a good deal of fertile land, especially in the wadis, which produces good crops of grain (barley, &c.)

as well as olives, figs, and grapes. The Gharian, who are an old Berber tribe, are Malekites.

The **Tarhuna**, an ancient Berber tribe, is now much Arabized. Some 800 live a sedentary life at the Kasr Tarhuna (or Luberat); the rest are for the most part nomadic. Some live like the Gharian Berbers in underground dwellings. They are described as warlike and rebellious. The population includes *marabut* and *sherif* elements.

The **Msellata** are similarly an ancient Berber tribe now almost completely Arabized, and inhabiting the fertile country at the extreme NE. end of the Jebel. They are partly sedentary and partly nomadic; their chief town, Kusabat, is an important commercial centre with 3,500 inhabitants.

6. INHABITANTS OF THE CYRENAICAN PLATEAU

There is no doubt that Cyrenaica, like Tripoli, was originally inhabited by Berber tribes, and traces of these aborigines still remain. But the traces are much less clear than in Tripoli. There are no Berber tribes of even comparatively pure blood, like those of the Jebel; nor is the Berber element in the Arab tribes so well marked as in many of the Tripolitan Arabs. It is, however, true that the Cyrenaican Arabs have a certain admixture of Berber blood.

For a general description of their organization and nomadic life see Section 3, above. The chief tribes are as follows:

The **Mugharba** are, as their name indicates, the westernmost inhabitants of Cyrenaica. It is doubtful whether the name should be taken as a tribal designation at all, and not merely as a geographical title applied to those tribes of the Syrtic region (Aulad esh Sheikh, Aulad Suleiman, Zuia) who immediately adjoin the Cyrenaican plateau tribes proper.

The **Awaghir** inhabit the coastal region from the boundary of the Mugharba to Benghazi and Tokra. Their territory is a fertile plain extending some distance inland. They are an Arab tribe, of nomadic habits, and are singular in

possessing a large number of horses. They probably number about 60,000 or more, and are said to be the largest tribe in Cyrenaica and the most important of the large tribes which surround the Syrtis coast.

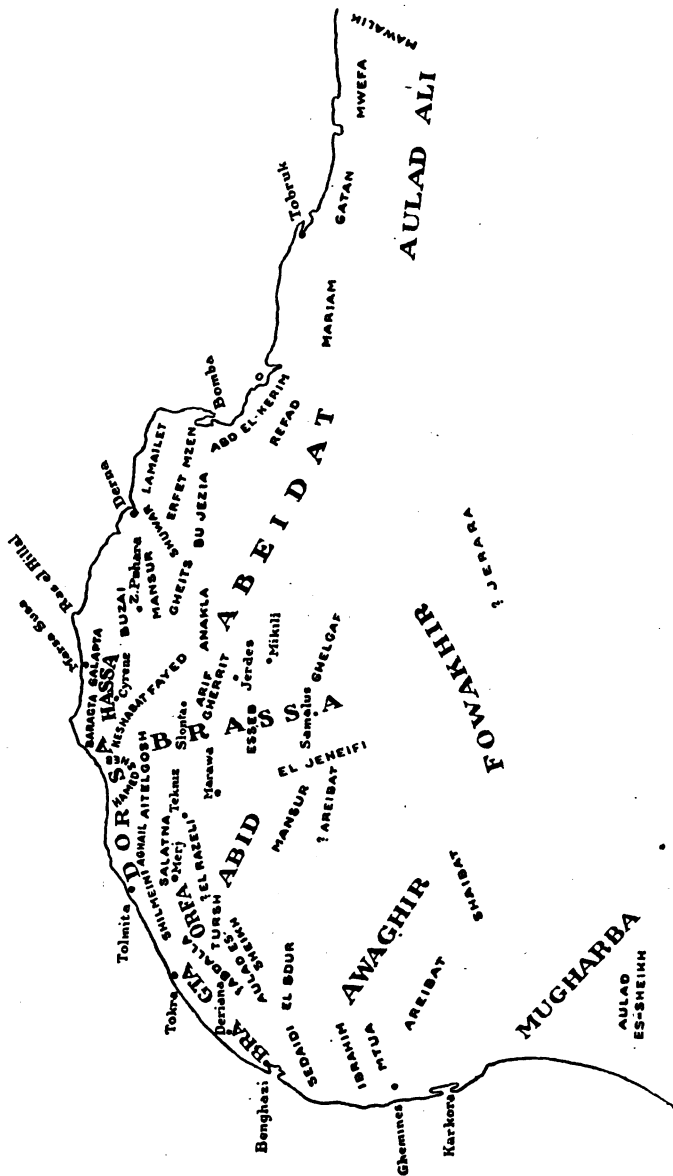
The Aulad Bragta (a large tribe in the plain NE. of Benghazi), Aulad Sdeidi, Aulad Suleiman, Aulad Mtawa, and Aulad Ibrahim are subdivisions of the Awaghir; a tribe known as Aulad esh Sheikh in the hills above Tokra (distinguish from the tribe of the same name mentioned under the Mu-gharba) is possibly a subdivision, probably independent.

Sections of other tribes are not unknown in the territory of the Awaghir (e. g. Zwari, Amamra, Sheltami, and Shelmani, the last two belonging to the Dorsa), while Awaghir sections are found as far afield as Slonta (Budleiza esh Shella) and Zawia Feidia (Dawal Amaur).

The **Orfa** are an Arab tribe occupying a short section of the coast between Tokra and Tolmita, and extending inland over the rich valleys of Merj and Silina, stretching also a considerable distance E. of Merj. They have a bad reputation for turbulence and robbery, but recent reports describe them as more peaceable and quiet, owing perhaps to the civilizing influence of the Senussi. Their sub-tribes are the Aulad Salatna and Aulad Tursh; the Razeli are possibly also an Orfa section. Total numbers, 20,000.

The **Abid** live in the mountains to the south of the Orfa, about the latitude of Benghazi and the longitude of Merj. They are said to possess access to the sea, probably between Tokra and Tolmita. They are Arabs, and members of the tribe with fair hair and white skins have been seen near Zawia Ksur. They breed stock and cultivate grain and barley.

They are the bravest and most dreaded tribe of the plateau, and suffered severely from the Italians in the war of 1911-12. They were apparently not hostile to the Turkish Government, and in spite of their warlike and predatory habits their country is described as well cultivated. Their sub-tribes are Aulad Mansur, Aulad Jabir, and Aulad Sara; total numbers, 17,000



TRIBES IN CYRENAICA

The **Dorsa** or **Drosa** are an Arab tribe situated in the coastal valleys round Tolmita and extending thence inland nearly to Merj, westwards to Segba, and eastwards along the coast to Ras Sem. They number about 28,000, and are in consequence an important tribe; they have a bad reputation for turbulence and robbery. Their two sub-tribes are the Aulad Abd el Jawad in the E. and Aulad Dris ed Dahar in the W.

The **Brassa** occupy a short section of coast W. of Marsa Susa, and extend thence southward and SE. by Zawia el Baida, Kasr Benijdem, Slonta, Sira, Karubet el Marawa, Thegbare, and Kasr Samalus to Zanzur Defana and Shafa on the edge of the desert. They thus occupy a broad belt stretching across the centre of the Cyrenaican plateau.

They are Arabs and claim to be *shurfa*. Their total number is probably about 30,000, and they live on stock-breeding and the wheat and barley which they grow. The Brassa are the most powerful and warlike tribe in Cyrenaica. They never submitted to the Turks, and exercise a kind of overlordship over all the other plateau tribes. They are also fanatical Moslems and strong supporters of Senussism. They have three sub-tribes: the Aulad Ahmed, formerly the leading family but now reduced by poverty to the position of *marabuts*, Aulad Tamiya, and Aulad Masud el Mesahit.

The **Hassa** inhabit the coast about Marsa Susa and inland to Cyrene (Gurennā), Zawia Feidia, and Zwei. They are an Arab tribe of a pure and fine type, numbering about 15,000. A division, the *ail* Ferjani, is marked by fair hair and blue eyes.

They are a sedentary tribe, subsisting on stock-breeding and the cultivation of wheat and barley. They seem to be peaceably inclined, though fanatical Moslems. They lost heavily in the Italian war. Their three sub-tribes are the Aulad Shabargta, Aulad Galabta, and Aulad Bakayet.

The **Abeidat** have their chief centre immediately E. of the Brassa country (i.e. S. of Marsa Susa and Derna), but they are found over an immense stretch of territory extending

E. as far as Tobruk, or even Sollum. They are a very large Arab tribe said to number 78,000, and have a great reputation for religiosity and theft. They are divided into thirteen sub-tribes (Anakla, Gheits, Mansur, Bu Jezia, Refad, Abd el Kerim, Mariam, &c.), upon whom depend numerous *marabut* tribes; among these may be mentioned the Ghataan, Mwefa, Mawalik, and Shuwar. The Ghataan also live among the Brassa and Awaghir.

The large Egyptian tribe of **Aulad Ali** extend across the frontier into Marmarica and must therefore be included among Libyan tribes.

The name **Aulad Harabi** is applied generically to all the Arabs of Cyrenaica.

Among the minor tribes a few call for notice: the **Areibat**, N. or W. of Kasr Samalus and by some authorities considered a sub-tribe of the Awaghir; the **Fayat**, a tribe of Egyptian origin, S. of the Hassa, of whom they are sometimes regarded as a section; the **Fowakhir** or **Tuagher**, a mixed nomadic tribe in the desert, astride of the Benghazi-Jaghbub road, fanatical adherents of the Madani confraternity; and the **Shaibat**, neighbours—or perhaps a sub-tribe—of the Awaghir.

7. INHABITANTS OF THE DESERT OASES

The population of the oases is much more mixed than that of the northern plateaux and steppes. Intermarriage between Arabs, Berbers, and negroes has been so common that a fairly homogeneous type, uniting certain characteristics of each of these races, has established itself. In general this population is physically poor and unhealthy; malaria and ophthalmia are rife in most of the oases (with a few exceptions such as Jofra and Ghadames) and other diseases are frequent. The oasis-dwellers also suffer from the visits of predatory nomads who, coming nominally to gather dates, actually plunder and sometimes massacre the inhabitants. This menace is most severe in the south, but all the oasis tribes suffer from it both morally and physically.

They live partly on agriculture of an intensive kind, and partly on caravan traffic. For further details besides those given below see chap. ix.

Ghadames is chiefly inhabited by Berbers, divided into two tribes, **Beni Ulid** and **Beni Wazit**. There are also Arabs, notably the **Aulad Bellil** from Sinaun, negroes, and Tuareg.

Ghat is inhabited by Tuareg.

Jofra has two main groups of inhabitants: Berbers (**Riah**) at Sokna and Arabs (**Aulad Wafi**) at Hon.

Sella is inhabited by Arabs of the **Aulad Khris** tribe, a large and powerful tribe well supplied with camels, said to be intelligent and trustworthy; hostile to the Turks and never really reduced by them to subjection.

Aujila is inhabited by the **Aujili** or **Awajili**, a Berber tribe with an admixture of negro blood. They are said to be rapidly becoming Arabized through the influence of the Senussi; the use of Arabic is extending and the younger people like to call themselves Arabs. Their proper dialect is *Berthana*, a Berber speech akin to that of Ghadames, Fezzan, and Siwa.

According to Rohlfs (1871) they are great travellers and good guides for all the desert routes; but the latest authorities describe them as sedentary and solely engaged in agriculture, while the same authorities assert that their neighbours the **Mujabra** are good guides. Rohlfs may have confused the two tribes.

The **Aujili** are skilful agriculturists and rear camels; but being a large and prolific tribe they are forced to emigrate from their oasis, and are found at Lebba in the neighbouring oasis of Jalo and also at various towns on the coast. There are said to be about 4,000 of them at Aujila.

They are honest, peaceable, and industrious. They show the Berber characteristic of a taste for *lakbi* (palm wine) and a certain laxity in their marriage customs; but the growing influence of the Senussi has tended to make them more strict in both these directions.

Jalo is partly inhabited by **Aujili**, partly by **Mujabra**. The latter are nominally Arabs but have in fact a very strong

Berber element, as well as a mixture of negro blood sufficient to make them much darker than the average. In manners and customs they closely resemble the Aujili, except that they are great travellers and slave-traders and know the desert routes well. Colonies of them are to be found at Benghazi and other towns.

The **Zawia** or **Zuia** are a large and widely-scattered desert tribe occupying the region round Aujila, Jalo, and Sella, and extending east to Jaghbub and south to Kufra. A portion of the subdivision Sadaidi appears to be just south of Benghazi. They are a hybrid stock of Arab and Berber blood, and have a considerable negro element, though their appearance is Semitic. Some are nomadic; others lead a sedentary life at Aujila, Jalo, Leskerre, and Kufra.

They are said to be gradually occupying Aujila and reducing the native Aujili to the position of serfs. In the north they seem to be becoming vassals of the Mugharba. They pay great attention to the cultivation of palm- and olive-trees.

Jaghbug was uninhabited until its occupation by the Senussi. There is therefore no one tribe established there, the population consisting of the Senussi *zawia* and a large number of slaves and dependants.

Siwa is inhabited by Berbers speaking a dialect of Tamahek; their Arabic resembles the Egyptian dialect rather than the more classical Tripolitan. There is a decided mixture of negro blood.

Fezzan is populated by a very mixed race, consisting chiefly of Tebu and Tuareg on the east and west respectively, with very marked negro elements which become stronger towards the south, so that the southernmost oases are inhabited by a population looking almost like negroes.

There are also various Arab tribes, mostly mere visitors, such as the Aulad Suleiman and Aulad Esh Sheikh from the southern shore of the Syrtis. Among the permanent residents are the **Hasauna**, a large nomad tribe; **Mekariha**, a large and prosperous nomad tribe, chiefly living N. of Sebkha; and **Murabidiya**, a sedentary tribe of Berber origin with a strong

negro strain, living especially in the south of Fezzan, and noted for their high standard of education. There is also a considerable body of **Aulad Suleiman** from the Syrtic desert, who have been settled here ever since 1831, when their tribe first came into conflict with the Turks.

Kufra was originally inhabited by Tebu. They have been to a great extent ejected by the Senussi, but still infest the neighbouring desert. The present inhabitants of Kufra are especially *Zawia*.

8. NOMADS OF THE SAHARA : TUAREG AND TEBU

Tuareg.—The name Tuareg is applied by the Arabs to the aboriginal Berber tribes of pure stock whom the Arab invaders have driven into the Sahara and thus compelled to become entirely nomadic in habits. By themselves these tribes are called *Imoshagh*, a name which can be traced into remote antiquity as the designation of an influential Libyan tribe.

The Tuareg speak the Tamahek dialect of the Berber language, the purest surviving form of that language. Type : tall and slight, fair complexion ; hair black and curly, eyes black or blue. They are of middle height, taller than the northern Berbers ; some are extremely tall. In certain ways they seem to show a cultural relation with the Sudanese negroes. They inhabit the whole central and western Sahara, from Tuat to Timbuktu and from Ghadames to Zinder. The only towns which they visit are the desert trade-centres, Ghat, Ghadames, Murzuk, Timbuktu, &c. The Tuareg are divided into four main tribes or confederacies : *Azjer* (near Ghat and Ghadames) ; *Kelui* (Air) ; *Hoggar* (in Hoggar mts. and central Sahara) ; *Awellimiden* (N. and E. of Timbuktu).

There are innumerable small local tribe-divisions.

Each confederacy appears to have its own head chief or *amenokal*.

They have become largely Arabized in manners and customs since the adoption of Islam, and use Arabic for all religious purposes.

They habitually undergo great privations, and their food, consisting of dates, barley, and *durra*, is always scanty.

In habits they are warlike, and the nobles are chiefly occupied either in raiding or escorting caravans traversing the desert.

They seem to show excellent fighting qualities, but they are extremely treacherous, bloodthirsty, grasping, and revengeful, and there are few pleasant incidents in the record of their relations with travellers or traders.

Their distinguishing mark is the veil which they wear to protect their faces from the sand ; in the case of the nobles this is black (dark blue), in the case of the common people white. They also wear wide mantles of white or grey stuff.

Their weapons are a straight two-edged sword, 4 ft. long ; a dagger bound to the left forearm ; an iron lance, 9 ft. long, and a large leather shield. They use wooden missiles like boomerangs for hunting. The low-caste tribes among the Hoggar have only bows and arrows.

There are two chief social classes : (1) *Ihaggaren*, nobles. They wear the black veil and do no manual work. They are pure bred, and supply chiefs for the small local tribes. (These chieftainships are practically hereditary.) Their occupations are fighting, robbing, and blackmailing. (2) *Imghad*, serfs. Their status is hereditary. They cannot be sold like slaves, and in most cases they are practically independent and follow their nobles as 'esquires' on fighting and raiding expeditions. Both classes keep slaves, mostly Sudanese negroes. These are well treated and regarded as members of the family, but there is no intermarriage between them and the Tuareg.

Women occupy an important position among them and have considerable freedom.

The importance of the Tuareg from the point of view of Libya is as follows. Within recent years the French have established for the first time a really effective control of the Western Sahara, including e.g. the whole Hoggar massif. The Tuareg of these regions are rapidly becoming amenable

to French administration and have already given up their old piratical existence ; they are taking to trade and agriculture and relaxing many of their old customs. But in southern Libya, which is now not occupied by the Italians, they can live as they like and escape from every kind of control ; and accordingly the recalcitrant and unruly elements appear to be concentrating in Fezzan and the adjacent deserts, which will, until reoccupied and effectively administered, be a centre of disaffection and anti-European feeling among the Tuareg.

The **Tebu (Tubu, Tudu, Teda)** are another branch of the aboriginal Hamitic race of Northern Africa, but it is not clear how far they should be called Berbers. They show greater affinities with the eastern Hamites of the Egyptian region than with the Tuareg or Tripoli Berbers. This has sometimes been explained by an admixture of negro blood ; but there is no proof that such an admixture exists.

Their home and chief centre is the Tibesti mountains, SE. of Tummo. But they spread over a large part of Fezzan as well as the whole of Kufra, and play in the Libyan desert and eastern Sahara much the same rôle of pastoral and, above all, predatory nomads as the Tuareg in the central and western Sahara.

They are perhaps more ready to adopt a sedentary mode of life than the Tuareg, and in the Tibesti mountains, as well as in the various oases, they have permanent settlements. In the main, however, their difference from the Tuareg is rather one of appearance than one of habits or character.

9. RELIGION

The chief religion is Mohammedanism, the natives being of the Malekite sect of the Sunnite or orthodox Moslems, with the exception of a few tribes (mostly Berbers of the Jebel), who still adhere to the old and almost extinct Ibadite sect.

The Hebrew religion is professed by about 20,000 persons.

The Christian religion is represented mostly by Roman

Catholics. There are also Orthodox Greeks, spiritually dependent upon the Oecumenical Patriarch of Constantinople, and a small number of Protestants.

Mohammedanism.

General notes on Mohammedanism may be found in the *Handbook of Turkey* in the present series. A few of the main points are summarized below.

Islam is a strictly monotheistic religion, its chief ground of controversy with Christianity being the doctrine of the Trinity, which Islam regards as a denial of the unity of God. God is held to be invisible and incapable of representation by any visible object whatever, though certain objects, such as the Black Stone of Mecca, receive a devotion which might be described by a severe critic as idolatrous. There are no mysteries or sacraments, and no intermediary is allowed to exist between God and the individual; there is thus no priestly order, though various persons perform quasi-priestly functions. Such are the *imam* who leads the faithful in prayer, and the *muezzin* who calls them to worship. Among the Shiah the *mullahs* approach the status of a regular clergy; and there are holy men, *marabitin* or ascetics, *fakirs*, dervishes of one sort or another, in all Moslem countries. A distinction, however, exists between the *ulema* or 'knowers', including *imams*, *muezzins*, *sheikhs*, and other official ministers of religion, and unofficial holy men such as *marabitin* and dervishes. The influence of the latter class is none the less powerful because they are somewhat despised by the former. In short, though there is nothing in the least resembling the Christian theory of priesthood, the practical power of religious officials has never been greater in Christendom than it is in Islam.

The central ideas of Mohammedanism are the unity, omnipotence, and goodness of God, the resurrection of the dead, and the last judgement. God's omnipotence is interpreted in a fatalistic sense as cancelling all freedom on the

part of man, whose first duty is absolute trust in God and resignation to the divine will. The prescribed observances are five : the recital of the creed ' there is no god but Allah and Mohammed is his prophet ' ; prayer five times daily, preceded by ablutions ; fasting, especially during the month of Ramadan, when no food, drink, or tobacco may be taken during the daytime ; almsgiving ; and pilgrimage to Mecca at a stated time of the Moslem year. Circumcision is universal, and the use of wine is strictly forbidden.

The Koran is the supreme authority not only on matters of faith and religious observance, but also on legal and social questions. It forms the basis of the *Sheriyat*, a sort of civil and criminal code, supplemented by the *Sunna*, or body of customary law. The latter is followed by the orthodox or Sunnite Moslems ; the great sect of the Shia reject it. The ostensible difference between these two bodies concerns the historical question of the claim of Ali, son-in-law of the Prophet, to the Caliphate. Ali and his sons Hassan and Hussein are regarded by the Shia as the legitimate line of Caliphs and as the chief of all the Moslem saints ; by the Sunni they are regarded as pretenders.

The chief religious institutions are mosques and *zawias*. Each mosque has, as a rule, an elementary school attached to it, and the *zawias* are as much educational as monastic in character (see below, on Confraternities). Both institutions are supported by endowments known as *wakf*.

An essential point of Mohammedanism is that the practical distinction between the religious and secular spheres, Church and State, which has usually been admitted by Christianity, does not exist at all for the Moslem. Islam as a religion is indistinguishable from Islam as a political organization, and Islam as a code determining every detail of the individual life. Thus, for instance, all wars against non-Moslem powers are religious wars ; and it is theoretically at least impossible for a Moslem to live in a society or under a government which is not Mohammedan.

Mohammedan Sects.

Islam is by no means a united religion. There are over 60 sects and 7 important divisions.

The first distinction, as we have indicated above, should be made between the orthodox or **Sunni**, who accept the Sunna, and the heterodox or **Shia**, who reject it. The Persian Mohammedans and the Arabs of the Yemen, Muskat, and Zanzibar are heterodox. The Turks are orthodox, as are also the inhabitants of North Africa who belong to the Malekite branch of the Sunni.

The **Ibadites** are a heterodox branch of the Sunnites. They recognize the Imam of Muskat as Sultan, and are a kind of Mohammedan Puritans. Adepts of this sect are found in Jebel Nefusa, at Zwara, Jerba, and in Algeria, especially among the Berbers.

10. MOSLEM CONFRATERNITIES

The Confraternities of the Moslem world have been compared to the Monastic Orders of the mediaeval Church. Though the parallel is by no means exact, it may serve as an illustration.

The Arabic name *Tarika* (plural *Turuk*), literally meaning the *way*, is applied to the fraternity itself as well as to the doctrines and rule of life which it inculcates. Primarily its object was to provide a refuge for the religious, to encourage and facilitate a return to a simpler practice of the faith, as conceived by the founder, to promote charity, sobriety, and unworldliness. Such fraternities appear as early as the twelfth century, the first having been founded by Abd el Kadir of Jilan (died A.D. 1166) and Ahmad el Rifai (died A.D. 1182). As long as the religion of Mohammed was a fighting and dominant force with little to fear from the attacks of Christendom, their importance remained local or domestic, since the government was essentially the guardian of the faith. Later, however, and especially in the last century, when Turkey was attacked,

when the English were in India and Egypt, and the French in Algeria, the fraternities began to gain a much greater prominence. In countries controlled by Christian powers the Moslem faith was in danger. It became necessary to ensure opportunities for its practice, even in opposition to the Government. The fraternities have thus come to have a political as well as a religious significance. To this result other circumstances have contributed.

Most of the orders are based on Sufism, the mystical form of Islam which originated in Syria and Persia in the second century of the Moslem era ; but, while retaining this basis, they have come to have at the present time a strongly practical character. In North Africa government hardly existed under the Turks, and tribal organization (partly owing to the mixture of Arab and Berber races) was loose and vague : such institutions therefore became necessary for the sake of personal protection. The scattered nomad population, owing to the failure of more natural groupings, has rearranged itself by adhesion to the various fraternities. Their leaders, supported by numerous followers—and by the contributions—have developed an ambition for power and wealth which is wholly material. The constitution of the fraternities is much the same in all cases. At the head is the *Sheikh* or *Imam*, with absolute authority as the direct representative of God and the Prophet. His office is sometimes hereditary, sometimes he is elected by the subordinate officers. As the successor of the founder he is sometimes called *Khalifa*. He generally lives at the chief settlement of the order. The second in command is the *Naib* (delegate, also called *Khalifa*), who represents the *Sheikh* in external business, and may or may not succeed him. Thirdly, over each *Zawia* (lodge, settlement, see below) is a *Mukaddam* (leader), usually appointed by the *Sheikh*, though many *Zawias* have attained a certain independence. The *Mukaddam* is more important in W. Africa than in the East, where he is merely the deputy of the *Naib*. There are also *Mukaddamin* who are not attached to *Zawias*, but go about making converts. Fourthly, the ordinary

members are generally called *Khuan* (brethren), though some orders have special names for them. Some orders also admit women as members, but the practice is not popular. There are occasionally lower officials or serving brethren, as assistants to the *Mukaddam*. The expenses of the organization are defrayed by the contributions of members, so that there is strong reason for zeal in the making of converts. A settlement is called *Zawia*, properly a retreat or hermitage. It may consist only of a mosque in which the *Sheikh* habitually prays, or of his residence. Often, however, it is much more extensive, containing schools and houses for officials in addition to the mosque, and is sometimes fortified. It serves as a refuge not only for the religious and the poor, but also for persons who are in trouble with the government.

The authority of the *Sheikh* must have a religious basis, and rests on the possession of the *waraka* or divine benediction. It may be acquired by descent, delegation, or personal holiness, which has been recognized by a special revelation. It is then unquestioned, and the doctrines inculcated by it become matters of faith. These are much alike in all fraternities, since nearly all have developed out of five original foundations. The practice, indeed, varies in every order from time to time and in different countries, but the principles, the methods of exegesis, and the miraculous stories of the founder (who is generally an historical person) remain fixed. New foundations are often due to a *Mukaddam* or even simple brother of special sanctity or great personal influence, whose principles will be those of his original order. This increase in the number of orders has gone on steadily since the twelfth century.

The most important principle is that of absolute obedience. There is a special ceremony for the initiation of *Khuan*, including, at least in the more centralized orders, an oath binding the initiate to obey the Head to death. There are also ceremonies for the appointment of a *Mukaddam* and for all official meetings of the *Zawia*. The ritual for general use is elaborate. A *hadra* (religious service) is held in some orders

daily, in others weekly. It consists mostly of repetitions of the formula 'la ilaha illa 'llahu' (there is no god but God) with various intonations, sometimes accompanied by music, and with bodily movements. The result generally is a sort of ecstasy, which is liable eventually to cause nervous affections and even insanity. The most familiar instances of the ritual are that of the Maulawia in Pera, who whirl round to music, and that of the Rifaia in Scutari, who adopt various positions while shouting the formula. Some orders claim miraculous powers, practised while in a state of ecstasy, and such claims appear as far back as the fourteenth century. Thus the Rifaia professed to eat live serpents and to pass through fire, the Isawia are snake-charmers, the *Sheikh* of the Saadia rides over the backs of prostrate devotees.

Among disciplinary practices solitude (*khalwa*) is often enjoined. This is especially the case with the Khalwatia (hence their name) who recite long prayers in solitude, in cells provided by the *Zawia*. Other orders repeat the formula a great number of times without taking breath. There are also peculiarities of dress, some of them symbolical.

Some fraternities are mendicant, or at least recognize begging; others forbid it. Most of them are recruited from the working and trading classes. In fact, membership need not interfere with ordinary life.

The following confraternities are of some importance in Libya, excluding the Senussi, who are treated below in a separate section.

The **Aissawa (Isawia)** are very widespread in Tripoli. Their founder, Sidi Mohammed ben Aissa, lived in the sixteenth century. They are less remarkable for their doctrines than for their practices, which include chewing and swallowing live snakes, laceration with swords, walking over fire, &c., which tortures they believe to facilitate absorption into the divine nature. They also shout and dance together with the same object every Friday at noon. They have few *zawias* in Tripoli and are but little organized; but the French consider them dangerous, partly because their mother-*zawia*

is at Meknes, outside the French sphere of control, and because their tenets encourage a determined hostility to unbelievers.

The **Salamia** were founded in 1795 by Abd es Salam ben Selim ben Mohammed el Asmar el Fituri (Sheikh el Asmar). The mother-*zawia* is at Zliten, and their chief sphere of influence is in the Tripolitan Jebel and the Syrtic region. They are given to ecstatic and sensational practices intended to induce a mystical trance in which they foretell the future, and also to the recitation of mystical poems. On the other hand, they have established a great business connexion with the south, many of their adepts being rich merchants working the great caravan-routes across the Sahara, and at the same time propagating the faith among the Sudanese.

The **Madani** (**Madania**) were founded about 1823 by Sidi Mohammed ben Hasan ben Hamza Dafer el Madani, called after Medina, his birthplace. The mother-*zawia* is at Misurata, and the sect, which is now widespread in Libya and as far afield as Constantinople and Morocco, teaches a high moral and religious ideal, apparently free from the ecstatic and superstitious practices of many other bodies. It does, however, aim at a pan-Islamic ideal, and seems to have been implicated in Arab Nationalist conspiracies in Libya, where according to Italian authorities it has always consistently set its face against all Western influence and all foreign temporal authority, Turkish or European.

11. THE SENUSSI

The Senussi movement is in origin a religious movement directed against the corruptions of Mohammedanism. Like other Moslem sects and fraternities, however, it has acquired a political significance.

History.—The founder was Sidi Mohammed ben Ali es Senussi, born in Algeria in 1796. He travelled to Mecca and became head of one branch of the Moroccan fraternity of the Khadiria. In 1835 he founded his first *zawia* in Arabia, and

gained the support of the Sultan of Wadai. After founding more *zawias* he left Mecca and settled in Cyrenaica, where he founded a *zawia* in the mountains near Derna. Here his teaching was welcomed, and the support of the Sultan of Wadai was a powerful help in a country intimately connected with Wadai by the caravan-route across the Libyan desert. In 1855 the Senussi and his followers settled at Jaghub, an oasis, previously uninhabited, lying 130 miles SW. of Sollum, just inside the Egyptian frontier. This move was undertaken with the intention of securing a retreat where the growing sect might be independent of political control and interference from Constantinople; the Sultan having shown himself somewhat hostile to similar fraternities. From 1856, however, the independence of the Senussi sect was established; they maintained a representative at Constantinople, and were not compelled to pay taxes to the Turks.

In 1859 es Senussi was succeeded by his son, Sidi el Mahdi, born in 1844. He was called the Mahdi because he possessed the physical characteristics (blue eyes and one arm longer than the other) which denote the true Madhi; but he did not claim that office for himself. He adopted the policy of refusing to embroil himself with European powers, but his relations with the outer world became more and more strained. He gradually acquired the power of a temporal sovereign throughout the country from Darfur, Wadai, and Bornu to the Tripolitan coast. On the rise of the Mahdi in 1883 he refused to join him, and warned the people of Wadai, Bornu, and the neighbouring states against the new movement.

In 1889 there were signs of Turkish interference, and an alleged plot to capture the Sheikh es Senussi and carry him to Constantinople leaked out. Accordingly, in 1894, he moved to the remote oasis of Kufra, where he was safe from the Turks, but found himself threatened by the French advance in the Sudan. He accordingly took up his abode in 1900 at Geru, a small oasis SW. of the Tibesti mountains, and made efforts to stem the French advance in Kanem. In 1901 he declared a *jihad* against the French, but in January 1902 his

fortress of Bir Allazi fell, and on the 30th of May he died. His hold on his followers, now extremely numerous, was, however, unshaken to the last, and inherited by his successor.

He was succeeded in 1902 by his nephew, Ahmed esh Sherif, who gave up the attempt to keep the French out of Kanem, and retired to Kufra, where he still occupies the position of Sheikh es Senussi. The adherents of the sect maintain that Sidi el Mahdi is not dead, but will return to resume his *jehad* against the infidels.

The campaign of Ahmed esh Sherif against Egypt in the winter of 1915-16, instigated by German and Turkish emissaries, came at the climax of the Senussi's power and was a complete failure. Three simultaneous attacks were planned, from Sollum, Siwa, and Darfur; only the first materialized at the time specified, and met with immediate defeat. Ahmed esh Sherif's prestige declined rapidly, and in February 1917 he was driven out of Siwa by a British force. The very existence of Senussism as a political programme thus seems to be at an end, at any rate for the present.

Policy of the Senussi.—The principle of Senussi policy has always been to maintain their own territorial and political freedom in Kufra; but this policy may easily be interpreted as implying a kind of Nationalism extending over a great part of North Africa. Attempts made by the Young Turks to hoist the Turkish flag at Kufra, to survey Senussi property for taxation, and to introduce compulsory military service were bitterly resented, and could not be carried out. For this reason the Senussi were friendly to the Italians in the early stages of the Turco-Italian war; but this attitude was suddenly abandoned (owing to the efforts of Enver Pasha) in 1912, and the Senussi resisted the Italian arms for some time after the conclusion of peace, in spite of advice from Constantinople.

The efforts of the Senussi leaders have been chiefly directed to colonization, the improvement of agriculture, and the advancement of civilization in the districts under their authority; and above all to the establishment of a purer form of Islam. These, rather than any political programme, have in the past

been their chief interest. At the same time their widespread influence, including Moslems of a higher and wealthier class than most of the fraternities, and their strong organization have for a time brought them into prominence as a political and military force ; and something of the same kind might possibly recur in their case or in that of other confraternities.

Distribution.—In Wadai and in the eastern Sahara practically the whole population belongs to the Senussi. All the chief oases and towns are supplied with Senussi *zawias*, among which may be mentioned Kufra, Siwa, Jaghbub, Aujila, Jalo, Benghazi, Derna, Tokra, Merj, Cyrene, Sira, Defana, and Tilimun in the east ; Tripoli, Gharian, Mizda, Ghadames, Ghat, Murzuk, Wadan (Jofra), Temissa, and Tejerri in the west ; El Bab, Yejeba, and Bilma on the Chad-Tummo road ; Farafra and Dakel in Egypt ; and a number of places in Borku, Kanem, and Wadai. There seem to be few adherents in Darfur, and in the western Sahara practically none.

CHAPTER IV

HISTORY

Conflicts with Egypt.

OUR earliest knowledge of the Libyans comes from Egyptian sources. From the time of the Early Empire (third dynasty) Egypt suffered from constant disturbances among her western neighbours, the Berber tribes of the oases and Cyrenaica. From the same source we learn that there were frequent wars between the Libyans and the negroes of the Sudan, who were their nearest neighbours on the south. At times, notably in the fifth and sixth dynasties, Egyptian kings intervened to put a stop to these wars.

The second period of Egyptian power, the Middle Empire (eleventh and twelfth dynasties), was marked by an extension of the influence of Egypt over the western tribes, especially by Usertsen I. The Libyans were reduced to a respectful peace, and paid tribute to the kings of Egypt. With the decline of the Middle Empire, however, they pass out of our sight.

The greatest period of Egyptian history, the Late Empire (eighteenth and nineteenth dynasties) brought Egypt again into touch and conflict with the desert Berbers. At first the offensive, as in the Middle Empire, seems to have lain with Egypt, and Amenhotep I, Thothmes I, and Thothmes III record successful expeditions and tribute levied on the Libyans of the 'northern and southern oases'. Amenhotep III made war against the 'Tehenu' (Libyans) and conquered them, forcing them to work at an Egyptian fortress.

With the change of dynasty, however, a change took place in the relation between Libyans and Egyptians. The former

were no longer passive, if somewhat recalcitrant, subjects on a distant frontier; they became by degrees aggressors and a serious menace to the safety of Egypt itself. This change was connected with certain disturbances of the population which took place in many of the countries bordering on the Mediterranean during the fifteenth to the thirteenth centuries B.C., and resembled in some ways the great migrations of the early centuries A.D. There seems to have been a general movement tending inwards to the shores of the Mediterranean, and a resulting displacement of the inhabitants of the coastlands; this again resulted in a number of conflicting and confused migrations in every direction within the Mediterranean area itself. The Libyan coast was invaded and in part settled by raiders from the north; but the beginnings of the migration in Libya itself were apparently earlier than these raids, and their cause is not clear. Their history is, however, well known from the Egyptian monuments.

At the beginning of the nineteenth dynasty it was found that the Libyans were moving in very large numbers into the Nile delta. The Egyptian kings were seriously concerned at this time with Syria, where they were making considerable conquests; but their attention was partially diverted to the more pressing danger at home, and Seti I fought two victorious battles against the Libyans in the Delta. Anxious, however, to proceed to Syria, he failed to follow up his victories, and the Libyan pressure continued. Seti's successor, Rameses II, fought a number of wars against the invaders, which his own monuments describe as uniformly successful. It is probable that these wars, of which we know very little, prevented him from using his great abilities to press the conquest of Syria after his first brilliant campaign against the Hittites in the Orontes valley.

In the reign of Rameses II we first find associated with the Libyans other invaders, namely the Shardana, described as a seafaring people. These were afterwards joined by other foreign races, whose names appear as Shekelsha, Tursha, Luka, and, according to the inscriptions, 'Northerners from

all lands'. The identification of these Northerners with Sardinians, Sicilians, Tyrrhenians, and Lycians is at least probable. At any rate, it is certain that the first great invasion of Egypt was undertaken by a combined force of tribes from many parts of the Mediterranean basin, and including both débris from the recently shattered empire of Knossos and some of the peoples which had destroyed it. The Hittites, the Cappadocian power which was Egypt's rival in Syria, favoured but did not actively help the invaders. They were met by Merenptah, Rameses II's successor, an old man at this time, but able and energetic; he inflicted upon them a crushing defeat, and, pushing the war into the enemy's country, invaded Libya itself.

His successor, Rameses III, was faced with a recurrence of the same situation on a larger scale. Twenty years after Merenptah's victory Egypt was once more invaded by the Libyans and their allies, now also including Pelestu (Philistines), Takara (Teucrians? or inhabitants of Zakro in Crete?), Danyana (the Danaoi of Homer?), and other tribes. The invasion was executed partly by land and partly by water; it penetrated up the Nile as far as Memphis, and was for a time very successful. Rameses III, however, fell upon and defeated the invaders with great loss.

The third of the great invasions was due to the activity of the Meshwesh, a tribe inhabiting the west of Libya; their name is possibly identical with Imoshagh, the name by which the Tuareg call themselves. They headed a large coalition of Libyan tribes, and, with the aid of a few allies (Takara, and Amorites from Syria), entered Egypt. Once more they were heavily defeated by Rameses III.

This was the end of the Libyan attempt at a military conquest of Egypt. They continued, however, to settle in the Delta in large numbers; it is evident that the movement was a migration which no military defeat could check. The Libyan community in the Delta grew in size and importance till in 945 B.C., it produced the first king of the twenty-second dynasty, Sheshonk, known in the Biblical record as Shishak.

The Greek Settlements.

The northern shores of Africa are alluded to in the early Greek legends. The gardens of the Hesperides and the waters of Lethe are supposed to have been in the vicinity of the modern Benghazi, and the country of the lotus-eaters visited by Odysseus is generally placed in the vicinity of Sfax in the modern Tunis. There is also the curious story in Pindar that the Argonauts in their return voyage passed into the Eastern Ocean, and apparently sailed round Africa to its southern point. From there they transported their ship a 12 days' journey overland till they came to Lake Tritonis, on the borders of Tunis and Tripoli, from whence they reached the Mediterranean. According to Herodotus they were driven into Lake Tritonis from the Mediterranean. All these stories indicate that the earliest inhabitants of Greece had certain vague relations with this region, but the first really historical event alluded to in Greek literature is the colonization of Cyrene, which is generally assigned to the year 631 B.C. This is also connected by Pindar with the voyage of the Argonauts. They took with them from Lake Tritonis a piece of African earth as a symbol of the return of their descendants to Libya. Unfortunately it fell into the sea near the island of Thera, and Medea prophesied that the colonies would not be founded by Argives or Lacedaemonians, but by a man born of a strange mother in the island of Lemnos who would set out from the isle of Thera to cross the sea and accomplish the will of the gods. This man was Battos, a descendant of the Thessalians who had established themselves at Lemnos and from there had colonized Thera. It is interesting to note that when the oracle of Apollo later enjoined the inhabitants of Thera to found a colony in Libya a deputation was first sent to the Cretans for information, and Herodotus also says that the colony was founded with the help of the Cretans. Apart from the various speculations to which this story has given rise it is tolerably clear that

the Greeks were following in the footsteps of the Cretans, who had always had relations with the northern coast of Africa.

The colonists appear first of all to have occupied the island of Platea, which is usually identified with the modern Seal Island in the Gulf of Bomba. From there they passed to the mainland, and some years later (631 B.C.) they went farther west to the springs of Apollo, where they founded Cyrene, on a plateau about 9 miles from the sea. This was the centre from which Greek influence extended along the shores of the country which is still called Cyrenaica.

Cyrenaica was also known as the Pentapolis from the five most important cities in it. Of these the first was of course Cyrene. It occupied a considerable extent of ground and possessed many fine buildings. On a hill to the east stood the acropolis with two large temples. Since the Italian occupation it has been possible to excavate the site, and a certain number of works of art have been discovered, notably an Aphrodite, a statue of Alexander, and a wingless Victory. It is interesting to note that the Greeks of Cyrene buried their dead in grottoes. In this they must have been adopting the local customs of Libya, for the usual Greek practice was cremation. The springs of Apollo are still full of water, and it is possible that a town may again arise on the old site, but at present nothing exists except extensive ruins.

The port of Cyrene, called Apollonia, was also reckoned as one of the five cities. It was an important little town with a citadel, a theatre, and several temples. During the first centuries of the Christian era Apollonia was the seat of a bishop, and even passed as the capital of the Pentapolis. It is the modern Marsa Susa, and traces of the old road to Cyrene still remain.

Farther west lay the town of Barke, the modern Merj. It sank into insignificance quite early, and its place was taken even in the time of the Ptolemies by its port Ptolemais, on the site of which stands the modern village of Tolmita.

Still farther west on the coast lay the town of Taucheira,

one of the oldest Greek colonies in Cyrenaica. In the time of the Ptolemies it was known as Arsinoe, and in the time of Cleopatra as Cleopatris. The oldest name, however, has survived to modern days in the modified form of Tokra. The ruins can still be seen surrounded by a well-preserved wall with a circumference of about 3,500 feet.

The fifth town of the Pentapolis was also on the sea-coast, and lay about 22 miles west of Tokra. Its earliest name was Euhesperides, but from the time of Ptolemy III it was known as Berenike. Its name has been changed by the Arabs to Benghazi, but the Berbers still call it by the name Bernik. The country around it is very fertile, and its commerce was considerable in the time of the Ptolemies. It became the most important place in Cyrenaica, and has continued to be so till the present day.

The Greeks never succeeded in extending their influence much farther west. The various attempts which they made all failed in the face of opposition from the native Libyans and the Carthaginians. The Dorians tried unsuccessfully to found a colony near the mouth of the Kinyps in 520 B.C. About 400 B.C. there was a war between the Greeks and the Carthaginians, but at the end of it the Greeks still remained within their original limits. Agathokles, at the head of an army of Greeks from Sicily, heavily defeated the Carthaginians in Africa in 310 B.C., but without permanent result. The extreme western limit of the Greek influence was always the Altars of the Philaeni, i.e. the modern Muktar.

Jewish Immigrants.

One may observe incidentally that while the Greeks failed to extend their frontiers against the Semites of Carthage, the Jews, another branch of the Semitic race, became fairly numerous in Cyrenaica itself. Ptolemy Soter transported a large number of them from Judaea to Cyrenaica, and the Jewish colonies formed a considerable part of the population

in the time of the Ptolemies. They received continual additions direct from Palestine and they appear to have been as prominent and influential in Berenike as they are in the modern Benghazi.

The Phoenicians also introduced the Jews into the northern coast of Africa and even into Spain. A considerable number of them appear to have come east from Carthage, and to have settled on the shores of the Great Syrtis. One of the most important of these settlements was at the modern village of Medina es Sultan, and was known during the Roman Empire as the *Locus Judaeorum Augusti*, 'the place of the Jews who belong to the emperor'.

These two streams of Jews, one coming east from Carthage and the other going west, remained completely distinct until the country came under the Roman Empire. It was only then that the sharp division between the eastern and western shores of North Africa was first overcome.

History of the Greek Colonies.

The history of Cyrene in classical times may be divided into four periods—a period under the kings, which lasted nearly 200 years; a period of democracy alternating with tyranny, which lasted for a little more than 100 years; the period under the Ptolemies of about 250 years; and, lastly, the period under the Romans.

The first Battos reigned from 631 to 600, and was succeeded by his son Arkesilas (600–584). He in turn was succeeded by his son Battos II (584–560), who introduced colonists from the Peloponnese, Crete, and the Aegean Islands, and founded other towns in the vicinity of Cyrene. The native Asbystae were naturally angry at being deprived of their territory, and applied for help to Hophra, king of Egypt, who sent an army against Cyrene about 572. The Greeks marched out to meet it, and completely defeated it in the neighbourhood of Irasa.

The reign of his son Arkesilas II (560–544) marked the beginning of that tendency to internal faction which was a source of weakness to the Greeks in general and the inhabitants of Cyrene in particular. He quarrelled with his brothers, and forced them to leave Cyrene. They proceeded to found the town of Barke, which, if we may judge from its non-Greek name, was perhaps already some sort of native settlement. At any rate they had evidently close relations with the native Libyans, for they stirred them up to attack Cyrene. When Arkesilas marched out against them they retreated eastward to a place called Leukon, where they made a stand and inflicted a very heavy defeat on the Cyrenaeans. On his return to Cyrene Arkesilas was killed by his brother Learchus. He was succeeded by his son Battos III (544–530).

During this reign the royal power was considerably modified. In this respect Cyrene was merely putting itself in line with the general democratic tendency of many other Greek states. The philosopher Demonax was summoned from Mantinea to give the state a constitution. He divided the population into three tribes. The first was composed of the people from Thera, the second of Peloponnesians and Cretans, and the third of Greeks from the other islands. The king retained his wealth and sacred character, but the power was in the hands of the people.

The next king, Arkesilas III, immediately demanded the restoration of the royal power, but was resisted by the people and compelled to flee to Samos. He returned with an army of mercenaries, and succeeded in reacquiring the royal power, but shortly afterwards fell a victim to the popular fury, along with his father-in-law, Alazir, the king of Barke (about 515 B.C.).

His mother, Pheretime, determined to avenge him. She called in the aid of the Persians who were now in possession of Egypt. Aryander, the Persian Satrap of Egypt, marched against Barke, and after a siege of nine months succeeded in taking it by treachery. The city was given over to Pheretime, who revenged herself with the greatest cruelty. The Persian

army penetrated as far as Euhesperides, but failed to capture Cyrene, and returned to Egypt, where Pheretime, according to Herodotus, perished miserably of a loathsome disease.

The second son of Pheretime, Battos IV, then succeeded to the throne, and after an uneventful reign was succeeded by his son Arkesilas IV. The latter was a man of considerable energy, but he fell foul of the Cyrenaeans, who dethroned him in 440, after which the city became a republic.

During the democratic period Cyrene attained to a condition of great economic prosperity, but suffered a great deal from internal quarrels. The democratic leader, Ariston, succeeded in making himself tyrant, and put to death 500 of the Cyrenaean aristocrats. The rest fled to Greece, and returned with an army of Messenians who had been exiled by Sparta. After both sides had suffered great losses, they were compelled to make peace and forget their ancient quarrels.

Apparently at this stage, whether because of the unfortunate domestic divisions or because of a general corruption of morals induced by too much prosperity, it was recognized that the constitution was in need of remodelling, and the philosopher Plato was invited to give Cyrene a new set of laws. He declined the offer on the ground that the people were too self-satisfied and corrupt to be improved by any external change in the constitution.

When Alexander the Great conquered Egypt in 331 B.C. he visited the oasis of Ammonium (the modern Siwa), which had been in the hands of the Persians since about 500 B.C. The people of Cyrene sent rich presents to him on that occasion, and received in return an offer of alliance.

On the death of Alexander, Egypt passed under the power of the Ptolemies, and internal strife broke out again in Cyrene. Thimbron, a general of Alexander, occupied Apollonia and besieged Cyrene. Ptolemy Lagides of Egypt came to the rescue, defeated Thimbron, and made himself master of Cyrene in 321 B.C., in spite of a rebellion on the part of the Cyrenaeans.

Under the Ptolemies the prosperity of Cyrene declined. It

ceased to be the leading city of the Pentapolis, and Euesperides rose to the chief position.

In the second century B.C. there was a struggle for the succession. The dynasty was completely decadent, and Rome had to intervene. Cyrenaica and the island of Cyprus were assigned to Ptolemy VII, Physcon (158 B.C.). For some time his son acted as independent governor of Cyrenaica, and at his death bequeathed it to Rome (96 B.C.). The Romans, with that national disinclination to act which is often put down to political astuteness, merely demanded a certain number of ships in time of war, and left the country at the mercy of a succession of cruel and incapable tyrants. Finally in 66 B.C. they made it a senatorial province along with Crete. It was governed by a pro-praetor and later by a pro-consul. The towns received the usual rights of municipal administration, but the independence of this Greek outpost against the barbarians was extinguished for ever. Its history is now that of a part of the Roman Empire, and can no longer be considered apart from the rest of Tripoli.

The period of Greek occupation was the time of greatest civilization in the history of Cyrenaica. Cyrenaica was distinguished then for its agriculture and its commerce, and still more for its system of government, its philosophy, its literature and its science. Its best known writers were Aristippus, the founder of the Cyrenaic School, which held that the end of life lay in the pleasure of the moment, Eratosthenes, who was a distinguished geographer and scientist, and Callimachus who was one of the most distinguished of later Greek poets. All this flourishing civilization was maintained against a background of Libyan barbarism, and in the midst of continual internal dissension. It appears to have displayed certain tendencies to luxury and effeminacy, which found expression in the hedonistic philosophy of Aristippus, but nothing can be more unfortunate than its destruction at the hands of ignorant and fanatical Arabs. Its complete annihilation is one of the most remarkable facts in history, and the Italians may reasonably claim that by their conquest they are seeking to reclaim

a part of western civilization which should never have been allowed to sink into barbarism.

Greek civilization, here as always, appears so developed and so self-contained that it is difficult to recognize the reality of the danger which threatened it from the Libyans in its rear. But even in the most flourishing period of the Greek influence it was never free from danger. In 413 B.C., when the Spartan Gylippus on his way to the relief of Syracuse was forced by stress of weather to put into Euhesperides, he found it actually besieged by the natives, and it was only by his aid that they were beaten off.

The Libyans during the Greek Period.

We have several accounts of the Libyans during this period and the period of the Romans, e. g. by Scylax, Strabo, Diodorus Siculus, and Pliny, but the best account is by Herodotus, who is also our chief authority for the history of Cyrene. He gives lists of the names and positions of the various tribes, together with a description of their characteristics, and describes the southern oases of Siwa, Aujila (which has retained its name all down the centuries), Fezzan and Ghadames. These details may be ignored, but it is interesting to observe how similar the life of the nomads was then to what it is to-day.

Herodotus describes the Libyans east of Lake Tritonis as nomadic in opposition to the sedentary agricultural Libyans of the west, but it is clear from his own description that they were for the most part only semi-nomadic, i. e. they wandered within certain limits and had definite settlements for different times of the year. The Nasamones, for instance, had their main settlement on the Syrtic shore, where they left their herds in summer, and went up to Aujila for the date harvest. Similarly many Arab nomads at the present day leave the oases after sowing their crops in the autumn and return again in the spring. It was only in the barren interior, if anywhere, that the tribes were purely nomadic, and the tribes in the fertile coast plateau were always tending to become more and more sedentary.

The Libyans appear to have hunted the abundant game of which Herodotus gives a description. They possessed many domestic animals, cattle, sheep, and goats. They had also a great many asses, and the horse, which was introduced from Egypt, became later very common. The camel was introduced from Egypt a little later—probably in the fourth century B. C.—and by the time of the Romans was common over the whole of North Africa. Dogs were kept for hunting, and the Syzantes at least were known to be bee-keepers.

The less civilized tribes doubtless depended chiefly upon their domestic animals, but in the more fertile places agriculture was also practised. The region of the Kinyps and around Euhesperides are specially mentioned by Herodotus, who compares them with Babylonia, and of Cyrenaica generally he says quite truly that a crop was reaped yearly at successive seasons from the lowest, the middle, and the highest levels respectively. The Garamantes, probably of Fezzan, covered saline earth with loam and then sowed it. Grapes were certainly grown in Marmarica (which attained an unenviable reputation for the badness of its wine), in the island of Cyraunis, and probably in parts of Eastern Libya. The olive was widely cultivated in Graeco-Roman times, as is shown by the numerous ruined presses which remain. The date was, of course, used extensively for food, its fibres served for the making of cords, and a wine called *caryotis* was prepared from the fruit. The olive, which was cultivated by the Greeks, appears now to be neglected (see p. 98), but otherwise everything to-day is pretty much the same.

The trade routes also appear to have been very much the same, with the exception of the great caravan route from Benghazi through Aujila and Kufra to Wadai, which is modern. The main routes ran north and south rather than east and west, and the most important of these was the Chad-Tripoli route, a line of march by which merchandise has been exchanged between north and south for thousands of years. The main articles of commerce appear to have been ivory and slaves, and other articles were probably ostrich plumes and ostrich

eggs (the latter have been found in Etruscan tombs), *silphium* (see p. 110), hides, rock-salt, precious stones, particularly the carbuncle, ebony, and *citrus* wood. There must have been a trade with Europe in many of these things long before historical times. The imports also seem to have been much the same as they are now, arms and other objects of metal, foreign cloth-fabrics, pottery and glass.

These routes were evidently traversed for great distances to the south. Five youths of the Nasamones are said to have travelled south over the desert till they came to inhabited land and a great river running from east to west. This stream Herodotus believed to have been the Nile, but in all probability it was the Niger. There they were captured by a black pygmy people, who impressed them as being great sorcerers. They were kept prisoners for some time, but finally allowed to depart, and succeeded in reaching their homes. This achievement is in its way almost as remarkable as that of the Phoenicians, who sailed from the Red Sea and probably succeeded in circumnavigating Africa.

Herodotus gives some indication as to the manner in which the supply of slaves was kept up. 'The Garamantes', he remarks, 'have four-horse chariots in which they pursue the Troglodyte Ethiopians, who of all nations whereof any account has reached our ears, are by far the fleetest of foot.' The history of the Chad-Tripoli road, could it ever be written, would be a continuous record of obscure misery and suffering.

'In another respect things have not altered. The caravans were always liable to be attacked by the marauding tribes of the interior. Most of the Roman raids into the interior appear to have had as their object the security of the trade routes. The coast tribes also appear to have made the most of their limited opportunities for piracy and wrecking. The Nasamones, in particular, had an unenviable reputation in this respect.

As regards general civilization, the Libyans appear to have had a loose tribal organization, but to have been capable for short periods, as e.g. during the invasions of Egypt, of some

sort of combined action. They were polygamous, but one wife had a position of pre-eminence like that of the chief lady of the Moslem *harem*. Women had considerable influence among them, and had a real share in the political and religious life of the people. The institutions generally differed in no essential way from those of the more primitive Berber tribes of the present time.

The Carthaginian Occupation.

We must now turn west to Tripoli proper. Unlike Cyren-aica, it has no real history. It produced no civilization, and left no record of itself. Its inhabitants lived in a state of semi-barbarism under the unfruitful influence of Carthage.

Carthage was founded in the vicinity of the modern Tunis about 800 B.C. It was a commercial and parasitic power rather than an agent for the expansion of civilization. Its territory was always restricted to a limited region in the north of Tunisia which was bounded by a line called the *Fossae Punicae*. Beyond that it dominated the whole coast of North Africa from the Altars of the Philaeni to the Atlantic Ocean together with the southern half of Spain and at one time Corsica, Sardinia, and part of Sicily. Its empire, however, was always limited to the exaction of tribute, the control of trade, and the acquisition of mercenaries.

The history of Tripoli is concerned only with the Liby-Phoenician maritime towns, called Ta Emporia, which were tributaries of the Carthaginian Republic. The nature of the ties which bound them to Carthage are uncertain, as is also the character of their inhabitants, but they seem to have been sharply marked off from the Libyans of the interior. By means of them the Carthaginians controlled the whole trade of the Sudan.

The first of these was Gabes in Tunisia. Those which belonged to Tripoli proper were Sabratha, Oea, and Leptis Magna.

The first of these was on the sea-coast in the neighbourhood of the modern hamlet of Zwagha esh Sherkia. It was known

as Sabra in the Middle Ages, and its harbour (see p. 268) is still called Marsa Sabrata. It is also known as Old Tripoli, from the fact that Tripoli succeeded it as the chief administrative centre. Considerable traces of its ruins remain. Among them are a mole and a quay as well as the usual statues and theatre. There was a magnificent church there during the Christian era. It was at one time the chief trading centre of the whole region.

The next town going east was Oea, the modern Tripoli. It may possibly have been a Pelasgian colony before it was seized by the Carthaginians. It was known as Aias during the Middle Ages. It was a great commercial harbour and commanded the routes to Lake Chad.

The next town to the east was Leptis Magna, the name of which survives in the form Lebda. It was known also as Neapolis. Some ruins remain. It paid to Carthage a tribute of one talent a day.

The Roman Empire in Africa.

The history of these towns is practically quite unknown before the Romans. Massinissa, a Libyan prince, assisted Rome in the second Punic War, which led to the complete discomfiture of Carthage in 201 B.C. After peace was made, the Romans did not prevent him from violating the rights of Carthage and extending his power at its expense. He mastered all the hinterland of the Emporia, and apparently—though this is not quite certain—succeeded in acquiring power over the sea-coast towns themselves. This important Berber kingdom remained for nearly 100 years and extended from Morocco to Cyrenaica. When the Romans conquered Carthage in 146 B.C. they confined themselves within its limits and did not interfere with the Berber kingdom until they were compelled to do so by the insolence of Jugurtha, the grandson of Massinissa. Even after the execution of Jugurtha in 104 B.C. the Roman province of Africa did not extend beyond the original boundaries of the Carthaginians, although Leptis Magna was treated as an ally, if not a subject.

It was only after Julius Caesar brought the civil wars to an end by the defeat of the followers of Pompey at Thapsus in 46 B.C. that the Roman province of Africa was extended to meet Cyrenaica, which had been made a province twenty years before. The whole of the north coast of Africa was now in the possession of the Romans.

For the next four hundred years this territory was under the Roman dominion. On the whole, this was a period of peace and prosperity, although the Libyan nomads never ceased from troubling the frontiers. The southern boundaries were from the very nature of the country somewhat indefinite, but the Romans had continually to send punitive expeditions far to the south in order to put a stop to the marauding which took place in the trade routes. The Garamantes of Fezzan in particular gave them a great deal of trouble. An expedition had to be organized against them towards the end of Caesar's lifetime, and a still more important expedition took place in 18 B.C. when Lucius Cornelius Balbus conquered Ghadames and Fezzan. Later on, although the exact date is unknown, the Garamantes were found assisting the Romans against the Ethiopians still farther south. On the other hand, in the reign of Tiberius they gave considerable trouble under their king Tacfarinas, and in A.D. 70, according to Pliny, they supported the towns of Oea and Leptis Magna in an attempt to revolt from Vespasian. According to Tacitus, they threatened to destroy Leptis Magna in order to help the people of Oea.

Other tribes also gave a certain amount of trouble. An expedition had to be organized against the tribes of Marmarica, and in A.D. 86 the Nasamones actually took the camp of the Roman praetor, but yielded to the usual Berber weakness and got so drunk on the wine that they found there that the camp was easily retaken and the Nasamones put to the sword.

The nomad tribes generally appear to have been little influenced by Roman civilization, but the towns became to some extent latinized. They adapted their municipal administration to the Roman model and gradually received the

rights of Italian citizens. The emperor Septimius Severus, who was himself a native of Leptis Magna, gave these rights to his native city and took a great interest in its welfare. Colonies of veteran soldiers were also founded by many of the Roman emperors, and there grew up a system of *latifundia* or large estates, with many small houses grouped round the house of the proprietor. Yet in spite of this gradual latinization the Phoenician language seems to have been the language of society as late as the third century A.D. It had quite disappeared by the time of the Arab conquest.

The Berber villages were organized under their own chiefs, and retained their native customs.

Under the Roman occupation the country was rich in corn and olive oil. It supplied a third of the corn imported into Rome. It exported also cattle and horses, wool and leather, and purple dye. There was also a great trade in slaves. The wealth of the country is shown by the numerous remains of houses, baths, theatres, temples and so on. The most notable building which remains is the triumphal arch erected in Tripoli in honour of Marcus Aurelius.

Little was produced in the way of literature, but several of the early fathers of the Christian Church came from Africa, notably Tertullian, Cyprian, Arnobius, Lactantius, and Saint Augustine. Synesius, the Bishop of Ptolemais, was born at Cyrene. It is interesting to observe that the Berbers, who are notoriously heretical Mohammedans, produced the arch-heretic Arius, whose followers in the western parts of Eastern Libya under the name of Donatists committed a thousand savage extravagances.

The Invasion of the Vandals.

The subsequent history of the country is one of the decadence and destruction of a civilization followed by a period of stagnation. It may be dealt with more briefly.

We have indicated that even in the time of complete Roman supremacy there was always the possibility of trouble with the nomadic Berbers of the interior. As the power of Rome

decreased, the danger from the Berbers became more serious. In A.D. 370 Leptis Magna was terribly devastated by a tribe of Libyans called Asturiani who also destroyed the town of Oea. Some time later Leptis Magna was completely destroyed by the Levates, who were also apparently a Berber tribe.

It was not, however, a Berber people who put an end to the Roman power in Africa. The Vandals crossed over to Africa from Gibraltar, about A.D. 428, and spread rapidly along the coast. In A.D. 439, their king Genseric captured Carthage, and in 455 he subdued the coast of Tripoli. The eastern empire of Byzantium, which had succeeded to the Roman empire in Africa, succeeded in recovering Tripoli between 469 and 471, but the Vandals immediately reoccupied it, and in 476 a peace was made according to which the Vandals held all the coast of Africa from the western borders of Cyrenaica to the Atlantic.

The Byzantine Empire.

The Vandal kingdom was not destined to last. In 533 Belisarius was sent to Africa by the Emperor Justinian, occupied Carthage and captured their king Gelimer. The Vandals disappeared from history, and the north of Africa was made into one province with seven subdivisions, one of which was Tripoli. The head of the army resided at Leptis Magna, which had already been completely covered by sand and was rebuilt by Justinian.

The reconstituted Byzantine empire lasted 113 years. It displayed considerable energy in extending its frontiers, but its system of administration was so bad that the people were driven to despair. Furthermore it had made the great mistake of persecuting the Berber heretics, a mistake which had also been a source of weakness to the Roman empire proper. Five million inhabitants are said to have quitted Africa during the reign of Justinian. When the first waves of the Arab invasion began to reach Africa in A.D. 647 there was little capacity for resistance left, and in a very short time the last vestiges of a great civilization were swept away.

The Arab Invasion.

We know little of the details of the last struggle. Cyrenaica suffered terribly from nomadic invasions and other misfortunes during the fifth century. In A. D. 616 the Persian king Chosroës ruined Cyrenaica in the course of a war with Byzantium. In A. D. 641, ten years after the death of Mahomet, the Khalif Omar conquered Egypt. Small detachments of Arabs penetrated into Cyrenaica, Tripoli, and Fezzan. They destroyed Cyrene and pillaged Tripoli in A. D. 642. They then pushed eastwards to the Atlantic and founded in Tunis the town of Khairouan. The Byzantines maintained themselves for some time in the fortified coast towns, and the Berbers defended themselves in the Aures mountains. By A. D. 709 the whole of north Africa had submitted to the Khalifate. The civilization of Greece and Rome was entirely wiped out and nothing of any value was put in its place. In conquering the lower races of the tropics the Arabs, in spite of their cruelties, did something to raise the level of civilization, but here their activity, in contact with a higher civilization than their own, was merely destructive.

North Africa under the Arabs.

After the Arab conquest Tripoli and Cyrenaica lose all independent character and have no separate history. One can only speak of the general history of the Arabs of northern Africa as a whole. The Berbers continued to be what they had always been, obstinate, unruly, and heretical, but without any capacity for organizing themselves into an independent nation and throwing off the foreign yoke.

When the Abassid dynasty succeeded to the Khalifate and moved the capital eastwards to Baghdad in A. D. 760 the African Arabs asserted their independence, and in A. D. 800 the Khalif Harun al Rashid recognized the independence of the African dynasty of the Aglabids.

In the tenth century the Shia heresy penetrated into Africa, and a Shia dynasty, the Fatimids, descendants of Ali and Fatima, the daughter of Mahomet, arose, and, with the aid of Berber tribes, took possession of the Aglabid territories in Morocco, Algeria, and Tripoli (A.D. 909). In A.D. 973 they conquered Egypt and established the new capital of Cairo.

In the eleventh century the governor of Ifrikiya tried to overthrow the Shia doctrine and recover Khairouan for the Sunni faith. The Fatimids declared a holy war, and dispatched the most savage Arab tribes against the West. The whole of Africa was laid waste, and this second (the so-called Hilla) invasion was even more thorough than the first. The Berbers were driven into the Aures and Atlas mountains and south to the Sahara. In the valleys and plains arose that mixture of races which exists at the present time.

We may note further two dynasties which played a part in the religious wars of Morocco, the Almoravids and the Almohads. The first led the Berbers of the Sahara to the conquest of Spain in A.D. 1016. The most remarkable representative of the second was Abu Yussuf, called 'El Mansur', who reigned from Seville to Marrakesh and to the borders of Cyrenaica. In his reign the Arabs showed some sign of developing in civilization. Anarchy was repressed, commerce flourished, and a certain amount of work was produced in philosophy (Averroes), art, and science. But this brief period of glory soon came to an end. In A.D. 1134 the Norman dukes of Sicily captured the island of Jerba in the Lesser Syrtis. In A.D. 1145 they occupied Tunis and Tripoli for a short time. They were finally expelled in A.D. 1160. At the beginning of the thirteenth century Spain began to free itself. The son of El Mansur was defeated at Las Navas de Tolosa in A.D. 1212.

At the end of the thirteenth century the Almohad dynasty came to an end and was succeeded by the Merinid, which reigned at Tlemsen till the end of the fifteenth century.

The Mussulman power was now weakening and was unable to prevent the Spaniards and Portuguese from taking a number

of towns on the coast from Tangier to Algiers in the sixteenth century, and in A.D. 1510 the Spaniards took and pillaged the town of Tripoli.

The Turkish Empire.

The Turks, however, succeeded in restoring the power of Islam by means of the brothers Barbarossa. They were born in Lesbos, and had been pirates from their youth. The elder brother Aruj occupied the island of Jerba, and before his death in A.D. 1518 he succeeded in seizing most of the principal Algerian towns including Tlemsen and Algiers. His younger brother Khairaddin carried on his work, speedily mastered Algeria and Tunis, and was recognized by the Sultan as his viceroy. He died in 1546, and after his death the territory of this Algerian kingdom was further extended by the capture of Tripoli in 1556 from the Knights of St. John of Jerusalem who had taken it shortly before.

The Turkish influence in this new kingdom was comparatively slight. The Turkish governor had to consult the *divan* or council of Janissaries, and the *aga* or head of the army possessed the real power. He was elected by the soldiers and recognized by the Turks, receiving from the beginning of the sixteenth century the title of *dey* of Algiers and *pasha*. Tunis had an independent *dey* from the beginning of the sixteenth century. He received the hereditary title *bey* in 1684, with the obligation to pay a certain tribute to Algeria. Tripoli was governed from the time of its conquest by a Turkish *pasha*, and paid tribute direct to Constantinople. In the seventeenth and eighteenth centuries the north of Africa was remarkable for its extensive piracy. The inhabitants of Tripoli in particular distinguished themselves for their cruelty and barbarity. The history of this period is merely a record of punitive expeditions by the English and French fleets. Piracy was never properly repressed until the French occupied Algiers in 1830.

During this period Tripoli attained a certain measure of independence. The *pasha* who was ruling there in 1714

assassinated about 300 Turkish functionaries, and was thereafter recognized by the Turks as practically independent in return for paying a sum of money to the Turkish government. He founded the dynasty of the Karamanli. This dynasty reigned (with a short interval in 1793) down to 1835. The main events of note were bombardments by the English and French fleets. In 1832 an English squadron exacted compensation for damage done to English subjects by an Arab rising in Fezzan, and in 1835 the Turks abolished the power of the Karamanli and made Tripoli into a Turkish *vilayet*, which it continued to be till its conquest by the Italians.

The Italian Conquest.

The Turkish occupation did little or nothing to develop the resources of the country. The slave trade still went on secretly, and the Italian occupation is the first real step towards the re-establishment of order and civilization. It had long been fully and explicitly recognized by Great Britain that this was a proper sphere for Italian expansion, and it is perhaps rather a matter for surprise that the Italians did not occupy it long before. They missed several obvious opportunities of doing so, and appear to have been forced into action not so much by any special obstruction to economic penetration on the part of the Turks as by the adventures of Germany in North Africa and the obvious German attempts to secure the trade if not the actual possession of Libya.

The Italians declared war in September 1911. The Italian fleet appeared off Tripoli on September 28 and bombarded the town on the 3rd of October, and thereafter the coast towns were gradually occupied. The Arabs were organized by Enver Bey (afterwards Enver Pasha), and the Italians experienced a good deal of difficulty in conquering the interior, especially in Cyrenaica. On October 23rd the Italians ran some risk in the oasis of El Hanni in the vicinity of Tripoli. The Arabs got in behind them, and were apparently assisted by Arabs who had already surrendered to the Italians. This

treachery was repressed with severity, but the charges of wholesale massacre which have been brought against the Italian army appear to have been without foundation.

This incident gave rise to considerable bitterness between the Arabs and Italians, and brought to an end the possibility of the Arabs coming to terms. The Italians withdrew their lines towards Tripoli, which increased the confidence of the Arabs, and remained for some time on the defensive. They were hampered by an outbreak of cholera. In the fighting which followed the Italians pressed the Turks back and won the battle of Ain Zara, in which they captured seven guns, although the Turkish army made good its retreat.

The Italians were now secure in their hold upon the neighbourhood of Tripoli. Thereafter there was a good deal of skirmishing at various places in the desert, notably at Bir Tobras and Ghargaresh, but the Italians made no attempt to force their way south and merely consolidated their positions. Lebda was occupied on May 2nd, and Sidi Abd el Jelil on June 8th. The occupation of the latter position involved fairly heavy fighting and was a serious blow to the Turks. A month later Misurata was seized by the Italians and also Zwara. On September 20th occurred the important battle of Sidi Billal. As peace was already in sight no further operations were taken in hand, and the Peace of Lausanne was signed on October 18th, 1912.

In Cyrenaica the tribes are proudly and fiercely independent, and the campaign was more difficult. After the occupation of Benghazi, Derna, and Tobruk no encounter took place for four weeks. Thereafter the tribes which had been stirred up by Enver caused a good deal of trouble. Derna in particular was the scene of many fierce skirmishes in which both sides displayed great courage. This state of affairs lasted during the whole winter at Derna, and the same is true of Benghazi, although the skirmishes there were less frequent. On March 12th a battle took place near Benghazi, called the battle of the Two Palms, in which the Arabs were heavily defeated. With this the Italians were satisfied, and the

summer was comparatively peaceful, though the Turks bombarded Derna on July 21st. Nearly a month later the Italians unexpectedly marched out and heavily defeated the Turks near Kasr el Leben. On October 7th Bomba was occupied, and ten days later peace was declared.

Recent Events.

Early in December 1914 German agents were discovered to be fomenting unrest among the natives. Risings took place at Nalut and in Fezzan, which was evacuated by the Italians. In the spring of 1915 the rebels, with German and Turkish officers, were encamped at Kasr Bu Hadi, S. of Sirte, where they were attacked on April 29 by 6,000 Italian and native troops. The irregulars deserted, and the Italian force, after very severe losses, fell back on Sirte.

In June an Italian force besieged in Azizia was compelled by lack of supplies to break out. Very few escaped. Almost the whole force was massacred. The main body of the rebels, under the command of a brother of the Sheikh es Senussi, now established its head-quarters at Azizia. Nalut and Ghadames, the last inland towns to remain in Italian hands, fell soon after, and by August Tripoli and Khoms alone were held by the Italians.

Since then matters have been at a standstill. The Arabs have made various unsuccessful assaults on Tripoli, and the Italians reoccupied Zwara in August 1916. The forces of the rebels, though supplied with arms and ammunition landed near Misurata by German submarines, seem to lack leadership and coherence. They have split up into a number of factions under rival chiefs, and are to all appearances wasting their strength in tribal warfare.

CHAPTER V

ADMINISTRATION

THE modern administration of Tripoli and Cyrenaica may be said to date from the Treaty of Lausanne (October 18, 1912), by which Turkey ceded her rights over these territories to the Italians. Since that date the Italians have been rapidly developing an administrative system which is gradually extended as the districts of the hinterland become reconciled to the Italian rule. They have endeavoured, as far as possible, to make it correspond with the previous system administered by the Turks.

A special ministry distinct from the Foreign Office was appointed for colonial affairs on the 20th December, 1912.

Central Administration.

On the 9th of January, 1913, Tripoli and Cyrenaica were declared to be separate governments, each presided over by a governor having full civil and military power. At the present time the governor of Tripoli is General Ameglio, who also directs the government of Cyrenaica.

The most important officials who assist the governor are the Secretary-General for civil and political affairs, the head of the office for politico-military affairs, and the chief of the general staff. The first of these officials superintends all the civil offices, and deals with political affairs in the zones declared to be under civil government; the second deals with political affairs in all the districts not declared to be under civil government; the third is entirely concerned with purely military matters, and assists the governor in his functions as commandant of the troops.

In addition there are a large number of government offices

dealing with particular branches of administration, e. g. public works, railways, maritime affairs, instruction, customs, finance, prisons, sanitation, &c., &c. These offices appear to have carried out a great deal of important work since they were instituted.

Local Administration.

It is more difficult to say how much has been done in the way of local administration. The greater part of the interior appears never to have been placed under civil government. In Cyrenaica, for instance, during at least the first half of 1914, the only civil zones were Benghazi and Derna with the country in their immediate neighbourhood. In Tripoli several zones had to be put under martial law in 1915. Hence our description of the local organization must be taken rather as an ideal which will be gradually extended than as a system which is actually in operation.

The Italian system is to some extent modelled on the previous system of the Ottoman Government. There Tripoli was a *vilayet*, and Cyrenaica was an independent *sanjak*, i. e. it was directly dependent on the central government of the empire.

Tripoli was divided into four *sanjaks*, viz. Tripoli (*kazas* Gharian, Orfella, Tarhuna, Nwahi Arba), Khoms (*kazas* Misurata, Zliten, Msellata, Sirte), Jebel (head-quarters Yefren; *kazas* Ghadames, Nalut, Jado), and Fezzan (head-quarters Murzuk, *kazas* Sokna, Shiyati, Ghat, and Sharda).

The *sanjak* of Cyrenaica was governed by a *mutessarif* (governor) residing at Benghazi. It was divided into 5 *kazas* (cantons), each under the jurisdiction of a *kaimmakam* (vice-governor). The *kaza* might or might not have smaller divisions (*mudirie*) under it. These were administered by a *mudir*. The 5 *kazas* of Cyrenaica were: Derna with 5 *mudirie*, Merj with 1 *mudiria*, Aujila-Jalo, Ajedabia with 1 *mudiria*, and Kufra. In addition there were 5 *mudirie* directly dependent on Benghazi.

The governments of Tripoli and Cyrenaica are now divided,

at least theoretically, into provinces (*regioni*), which are subdivided into departments (*circondari*), which again are subdivided into urban and rural districts (*distretti urbani e rurali*). The province is administered by a provincial commissioner (*commissario regionale*), the department by a delegate (*delegato circondariale*). The rural district is administered by a district agent (*agente distrettuale*), while the urban district has a special system of municipal administration, and is directly dependent on the delegate. The province corresponds to the *kaza*, the district to the *mudiria*. The department is an intermediate division introduced by the Italians.

The provincial commissioner must be an Italian official, but there is apparently an intention to choose the subordinate officials from the native population. Their power is to be limited by the necessity of co-operating with the military authorities.

The municipal administration in the urban districts is carried on by a mayor (*sindaco*), a committee of two assessors (*giunta*), and a council. The mayor is appointed by the governor; of the assessors one is appointed by the provincial commissioner, the other is elected by the council. The council itself is nominated by the provincial commissioner, and may not consist of less than 4 or more than 20 members. It is composed of residents either native or Italian. The municipal administration is supervised by an *intendente*, who must be an Italian official. In the quarters or wards of the municipalities a *maktar* elected by the notables has administrative duties and an *imam* religious duties. The greatest local religious authority is the *kadi*.

The district agents in the rural districts are assisted by a council of notables, and there are also provincial councils for the different provinces.

Taxes.

The main Turkish taxes—which seem to have been excessive—were as follows : (1) *virgu*, a tax on real estate ; (2) *ettemat-taa*, a tax on the profits of merchants ; (3) a tax on cattle

independent of the dues levied by municipalities ; (4) *ushr*, a tithe levied on cereals.

The Italians, on the other hand, have confined themselves to a system of indirect taxation. The main sources of revenue are from the customs and harbour dues, from postal charges, and from monopolies. The total revenue for 1913 amounted to about 5,000,000 *lire*, which is said to be sufficient to cover the normal expenses of administration. The chief items in it were 1,609,992·87 *lire* from monopolies (1,555,399·20 *lire* from the sale of tobacco, 49,943·95 *lire* from the sale of salt, the rest from quinine and other things), and 1,317,424·91 *lire* from the customs and harbour dues. This showed a marked improvement from the previous year.

Land System.

The following kinds of landed property were recognized by the Turkish Government : (1) *Mulk*, freehold ; (2) *Matruke*, land belonging in common to the tribes, *aillet* or villages ; (3) *Mirie*, State land in public use ; (4) *Mirie erazi*, land belonging to the State but conceded for the use of private individuals ; (5) *Mavat*, waste land which was considered to belong to the State ; (6) *Wakf* or *Habus*, lands dedicated to God, i.e. reserved to the mosques or *zawias* for purposes of worship, piety, or charity.

The first task of the Italian Government, by means of its *ufficio fundiario*, was to make a register of the land and to secure the titles of the possessors of freeholds. This appears to have been done successfully, at least in the vicinity of the important towns, with the co-operation of the Turkish Government. Further inland, where the Turks had less influence, the system of land tenure was more obscure, and is likely to present greater difficulties.

The amount of land set apart for purposes of religion is not very great in the neighbourhood of the towns, and is still less in the country districts, but the lands belonging to the *zawias* are more numerous and extensive.

The fact that all the classes of land except *Mulk* and *Wakf*

are considered to belong to the State in Ottoman law and the tradition of the country, is supposed by the Italians to be likely to render colonization more easy in the future.

Justice.

The Italian system of justice was established by a decree of March 20, 1913. It attempts to conciliate Mohammedan feeling as far as possible.

1. Civil suits where Italians and foreigners and all non-Mohammedans are concerned are decided by Provincial Tribunals in certain of the chief cities. In the case of suits involving more than 500 *lire*, appeal may be made to the Court of Appeal in Tripoli, and from there to the Supreme Court of Appeal in Rome (*la Cassazione*).

2. Civil suits between Mohammedans, whether native or foreign, are decided by the *Kadi* or his representatives. In matters affecting personal property, family rights, and religious practices, he may decide questions involving any amount of money, and his decisions must be executed under the supervision of the provincial judge. In cases of inheritance his decisions must receive the approval of the provincial judge. Appeal may be made in matters involving more than 500 *lire* to the Court of Appeal in Tripoli. The Jews have a special rabbinical court with the same rights as belong to the *kadi*.

3. Penal prosecutions in regard to Italians and foreigners and all non-Mohammedans are decided in the case of smaller offences by the Provincial Tribunals, in the case of more serious offences by the Courts of Assize which are held in the various centres where there are Provincial Tribunals. From the Provincial Tribunals appeal may be made to the Court of Appeal in Tripoli, and appeal may be made from the Court of Appeal and the Court of Assize to the Supreme Court in Rome.

4. In regard to Mohammedans, whether native or foreign, penal cases are decided by Native Tribunals held in the various centres where there are Provincial Tribunals, and by the Courts of Assize. Appeals may be made as in 3.

The general principle as regards cases of any importance

appears to be that the judge or judges should be assisted by Mohammedan assessors in dealing with Mohammedans, and by Italian assessors in all other circumstances. The *kadi* or local religious chief who applies the *Sheriyat* or religious law was nominated by the Sheikh ul Islam and paid by the Sultan. He had to be approved by Italy and nominated among the local *ulema* his representatives or *naibs* who were paid from the revenue of the colony.

The main centres where Provincial Tribunals were held were Tripoli, Misurata, Benghazi, and Derna. Sirte, Beni Ulid, Yefren, and Ghadames have also been seats of Provincial Tribunals, but the Italian evacuation of the interior (see above, p. 88) put a stop to these and all other developments so far as the interior is concerned.

In December 1915 four boards for arbitration among natives (*collegi di conciliaitura per indigeni*) were instituted—at Tripoli, Khoms, Benghazi, and Derna.

The Army.

The present regulations as regards the army were established by a decree of January 22, 1914.

The troops in Tripoli and Cyrenaica are under the governors of these territories.

The troops in Tripoli are composed as follows :

(a) Royal Italian *Carabinieri* (military police) and native *zaptie* (gendarmes).

(b) Italian troops : 2 battalions of infantry, 4 companies of mounted infantry, 1 battery of mountain artillery, 1 company of garrison artillery, 1 company of field artillery, 1 company of sappers and miners, 1 company of telegraph and wireless operators, 1 group of automobilists.

(c) Native troops : 6 battalions of infantry, 3 squadrons of cavalry, 2 batteries of mountain artillery, 6 platoons of *meharisti* (camel-riders) organized as 2 squadrons, 1 park of camels.

The troops in Cyrenaica are composed as follows :

(a) Royal Italian *Carabinieri* and native *zaptie*.

(b) Italian troops : 2 battalions of infantry, 2 companies of mounted infantry, 2 batteries of mountain artillery, 1 company of garrison artillery, 1 company of field artillery, 1 company of sappers and miners, 1 company of telegraph and wireless operators, 1 group of automobilists.

(c) Native troops : 4 battalions of infantry, 3 squadrons of cavalry, 1 battery of mountain artillery, 4 platoons of *meharisti* organized as 1 squadron, 1 park of camels.

How far this scheme has yet been carried out is uncertain. According to an official publication of May 1914, the actual number of native troops in both provinces was as follows : 7 battalions of infantry, 3 squadrons of cavalry, 1 squadron of *meharisti*, and some sections of artillery on camels. A decree of March 4, 1915, aimed at the reduction of the numbers of *Carabinieri*. The total number of effectives was given by an official authority of 1915 as follows : in Tripoli, officers 379, Italian troops 5,321, native troops 8,053; in Cyrenaica, officers 313, Italian troops 4,811, native troops 5,607. These numbers were said to hold for the year 1915.

The native troops form excellent material, and the earliest battalions formed distinguished themselves during the war of conquest. They are composed of volunteers between 18 and 28 years old. They enlist in the first instance for two years, and are drawn from all the racial types of the country, but Berbers predominate. They have complete religious freedom, and they are allowed to keep their families with them. Monogamy is generally practised, and is encouraged both by the Italian officials and by their own religious chiefs. Their period of military training develops their intelligence, spreads the Italian language, and is likely to promote feelings of loyalty.

The Italian troops are composed of volunteers enrolled between the ages of 18 and 28, and serving for 3 years.

The 6 companies of mounted infantry are mounted on mules, one mule for every two men. Each company is composed of 200 rifles and a section of 2 machine-guns. They always carry supplies for at least five days. They are able to march great distances, and their training involves monthly expeditions.

Police.

The *zaptie*, or native police, are the result of a gradual development. The Italians first kept order by means of marines and *carabinieri*, assisted by some of the former Turkish gendarmes and a few *zaptie* from Eritrea. Gradually more and more of the natives were introduced into this mixed body of police. The first big step forward was the founding, in February 1912, of a school at Tripoli for native *zaptie*, which was an almost immediate success. Later on a second school was founded at Benghazi owing to the difficulty of getting natives to serve far from their own homes.

The popularity of this body apparently makes it possible to insist upon a high standard for admission. The training is military. The members of the corps are able to keep their families with them, and to follow their own rites and customs. They are chosen exclusively from Mohammedans, and are stationed as far as possible in the districts to which they belong. They learn a little Italian, and some of the more intelligent ones do a little writing and arithmetic.

As the country becomes pacified the stations of the *zaptie* cover more and more of the country. In the first half of 1914 there were 700 *zaptie* distributed over 61 stations; some of the more important of these will be found mentioned in Chapter IV. It is intended to increase the number of *zaptie* to 1,050, including 160 non-commissioned officers. The different grades are *Shum-bashi*, *Buluk-bashi*, and *Muntaz*, corresponding roughly to our sergeant, corporal, and lance-corporal.

Each *zaptie* has two uniforms, and most of them are mounted, as they have usually to be responsible for districts of a considerable extent. They are armed like the *carabinieri*.

Consulates.

There is a British consul-general at Tripoli, and also a vice-consul. At Benghazi there is a consul, and at Khoms a vice-consul.

There is a French consul at Benghazi.

CHAPTER VI

RESOURCES AND TRADE

Part I. Tripoli.—Part II. Cyrenaica.

PART I. TRIPOLI

Resources.

THE dominant factor in the internal economy of the country is the limited water-supply, which restricts the productivity of a sufficiently fertile soil. Libya has no permanent rivers, and is entirely dependent on rainfall, and cultivation must always be confined to the oases, which are frequent in the coast-plains, rarer in the hilly inland region, very rare in the semi-desert and desert country beyond. Even in the oases much more may be done by making more use of land temporarily inundated in the rainy season and by the diffusion of scientific methods of dry farming, especially as applied to trees, than by any attempt to extend the area of irrigation. At Tawerga natural springs of considerable volume offer the possibility of agricultural development on a larger scale; but this is an isolated exception.

The oases which form a group round Tripoli and Tajura are the most fertile, having abundance of perfectly fresh water. Eastwards, especially round Misurata and Zliten, the water is brackish, and the cultivated land is exposed to sand blown from the dunes; and westwards, except at Zawia, the most important agricultural centre after Tripoli, water is scanty.

Dates.—The date-palm flourishes over a wide area. The total number cultivated in the colony is roughly estimated at 2,000,000. The dates are very inferior to those of Algeria, Tunis, and Egypt; they are, however, a staple article of diet

among the Arab population. Palm wine (*lakbi*) is in general use, and so is a fermented liquor made from dates which is also exported to Cyrenaica and Tunis. In a great part of the colony, palm-trees afford the only fuel and timber for building : the leaves are used for making baskets ; and the date-stones, so far as they are not used for feeding stock, are exported to Europe to be used in the manufacture of coffee substitutes.

Olives.—The olive is widely diffused, flourishing luxuriantly in irrigated land and maintaining itself with vigour in dry soil which enjoys a temporary inundation in the rainy season. It was a most important product in Roman times, as the remains of ancient presses visible in all parts of the Tripolitan Jebel, and known as *senams*, still testify ; and the Italians see great possibilities in the revival and extension of its culture, especially as it lends itself to the methods of dry farming. It might also be planted in many wadis and much temporarily inundated land at present not utilized. At present the trees receive no care, and the methods of extracting the oil are primitive. The consumption is local only.

In 1913-14 the number of olive-trees and the production of oil was as follows :

	No. of trees.	Oil produced.
Zone of Tripoli	163,400	1,409 quintals
Zone of Zliten	62,640	2,763 „
Zone of Jebel	324,800	5,929 „
	550,840	10,101 „

In 1909-10, 12,182 quintals were produced.

Cereals.—Barley is the most generally grown cereal, and what is not consumed locally is exported to Great Britain for the manufacture of whisky. *Dagussa*, known locally as *besbna*, also has a wide range ; wheat and maize are grown in places.

In the year 1913-14 the total production of wheat and barley in Tripoli was as follows :

	Barley.	Wheat.
Zone of Tripoli	124,560 quintals	15,870 quintals
Zone of Zliten	85,880 „	9,220 „
Zone of Jebel	130,960 „	4,950 „
	341,400 „	30,040 „

Garden produce.—Where water is abundant, garden stuff is produced, especially onions, tomatoes, carrots, and beans. Potatoes do well in proper conditions, and are to some extent an article of export. Fruit-trees thrive in the more fertile oases, especially round Tripoli. The oranges of Zawia are good, and used to be exported to Marseilles and Hamburg; the pomegranate, fig, apricot, and almond do well in suitable localities. Here and there the vine is grown, but owing to the prohibition in the Koran, no wine is produced.

Esparto grass.—Much the most valuable wild growth is *halfa* or *esparto* (*Stipa Tenacissima*), a plant used for the manufacture of paper. It is also produced in Spain, Morocco, Algeria, and Tunis, and is everywhere an important export: practically the whole crop is absorbed by Great Britain and France, chiefly by the former. In the 'eighties nearly half the total supply was furnished by Tripoli; but when the railways of the French provinces reached the *halfa*-bearing regions, the output of the latter rapidly increased, and that of Tripoli declined. The country round Khoms is alone exploited at present, and here the plant has suffered greatly both in quantity and quality from the rough and wasteful methods of the native collectors, who under the Turkish régime were quite uncontrolled. An Italian decree of 1914 has perhaps come too late to restore it to its former value. But large sources of supply in the Jebel are at present quite untouched, and may become of commercial importance now that the Italian railway has reached Gharian.

Live stock.—The country is predominantly pastoral. About half the total area sustains a somewhat coarse and scanty pasturage, sufficient for the flocks and herds on which the bulk of the population has always subsisted. But here again the restricted water-supply and the distances over which animals must be driven to obtain it set a limit to the development of this source of wealth, though there is probably more margin for increase than in the case of agriculture.

The pastoral population is mainly nomad: in the western part of the province, however, where pasture is more abundant,

it is sedentary for at least the greater part of the year, and the range of its wanderings does not exceed 80 or 90 miles at most. Generally speaking, the animals are the property of the families who tend them, but large numbers are also owned by rich inhabitants of the towns and kept by paid herdsmen.

The amount of stock in the colony in 1913 was estimated as follows :

Cattle	198,000
Sheep and goats	1,500,000
Camels	30,000
Horses	5,000
Donkeys	50,000

Cattle, sheep, and goats are raised primarily for meat ; wool, hides, and skins being valuable by-products, while the proprietors and their families live almost exclusively on milk and whey for some months of the year. Butter is made in considerable quantities.

The cattle fatten well, but are poor milkers, and too small to be of much value for labour, ploughing being chiefly done by camels. The camel is the animal most generally useful for transport : the flesh, especially of the young beast, is greatly esteemed, and the hide and hair are articles of export. Wool is an important article, both of home consumption and of foreign export ; the output might be increased by more careful methods of shearing. It is not of a high grade, and is sold full of earth and sand, which may amount to 50 per cent. of the total weight.

The local breed of horse has considerable staying power, but is underfed and put to work too young. Donkeys are very small, and no attention is paid to their breeding. The mule, so much in evidence in Tunis, is unknown, except from Zawia westwards to the Tunisian border.

Poultry and eggs are extremely abundant, not so much round Tripoli itself as in the remoter districts of Jefara, Azizia, the Jebel, and Gharian.

Salt and *tobacco* were both Government monopolies under

Turkey, the first controlled by the International Administration of the Public Debt, and the other by the Régie Impériale Cointéressée. Both were taken over as they stood by the Italian Government. Up to the end of 1912 the administration was one for the whole of Libya, but when this was divided into the two governmental districts of Tripoli and Cyrenaica, another Board of Direction was installed at Benghazi.

Natural salt marshes exist along the whole coast of both provinces. Those nearest to Tripoli are being worked by modern methods, and should achieve a large output. Three or four years will be required to put them on a proper footing, after which the Government will proceed to the development of others.

To facilitate governmental control, the cultivation of tobacco is limited to the oasis of Tripoli. The monopoly can only dispose of a very limited quantity, and it is not worth exporting as raw material: the cultivation, which was at first encouraged by the Italians after the war, has therefore had to be checked. The manufacture of cigars and snuff is, however, beginning to assume a certain importance.

Minerals.—The mineral resources of the colony have not yet been investigated, but there is no reason to suppose them great (see p. 16).

Trade and Trade-Routes.

All European trade passes through the port of Tripoli, the one harbour of the province. In former days caravan traffic with the south was of great importance, attaining in the decade from 1872 to 1881 an average annual value of 40,500,000 francs. Since then there has been a sharp fall due to two causes. The first of these is the occupation by the French in 1894 of Timbuktu, the great centre of exchange between North Africa and the wealthy regions south and west of the Niger; the second is the improvement of communications in Nigeria. Goods reaching Kano now proceed by rail to Lagos and are shipped thence to Liverpool, and the traffic of the

French Sudan was for a time almost completely diverted to this course. The successes of the Italian arms in Fezzan, however, have had some effect in reviving caravan traffic, especially with Borku, whose trade now all comes to Tripoli via Murzuk or Ghadames.

There are two main caravan routes connecting Tripoli with Central Africa :

(1) that by Sirte-Sokna-Murzuk and thence (a) via Bilma to Borku, (b) via Tibesti to Wadai, (c) via Ghat to the Haussa.

(2) that by Jado-Sinaun-Ghadames-Ghat to Air-Agades-Damergu-Zinder, so finally to Kano.

Exports to the Sudan by these routes consist of cotton stuffs, cloth, silk handkerchiefs, corals, glass beads, tea, coffee, sugar, mirrors, packing-paper (used in Central Africa as writing-paper), and dyeing materials.

The imports are mainly ostrich feathers (which, however, before the Italian annexation went chiefly via Kano and Lagos to Liverpool and thence to Tripoli as a safer and quicker route), ivory (a diminishing trade), sheep and goat skins, mostly coloured red and yellow by the vegetable substances used in the partial dressing to which they have been subjected, leather goods, senna, and certain Sudanese textiles.

The chief exports via the port of Tripoli are :

1. Live stock, which goes principally to Malta : the amount, however, is less than that which reaches Egypt by the land route.

2. Ox-hides, exported to Sicily, France, and England ; and camel-hides, which go to England, America, and Tunis. The camel-hair is also exported for the manufacture of the Loden cloth from which cloaks are made in the Alpine countries.

3. Lamb and sheep skins, exported to France, and of late years to Italy ; the sheep and goat skins of the Sudan are also prepared in Tripoli and re-exported to America.

4. Wool, both washed and unwashed, sent to Marseilles, and in smaller quantities to Genoa.

5. Poultry and eggs, in which before the Turco-Italian war here was a flourishing trade, principally with Egypt.

6. Butter, exported before the war to Alexandria, Smyrna, Crete, and Constantinople.

7. *Halfa* (esparto), a trade entirely interrupted by the war, but now showing signs of revival.

8. Sponges, exported chiefly to Greece, England, Holland, and Italy.

No satisfactory trade statistics exist. Those which date from the Turkish period have no validity under changed conditions : the dislocation caused by the Turco-Italian war was succeeded by a period of experiment, which was interrupted in turn by the European war, with the result that none of the scanty figures available reflect normal conditions. It is plain, however, that while the trade of Tripoli is by no means negligible and is capable of some expansion, the country is one of no great natural wealth or undeveloped resources.

Industries.

These are as yet rudimentary, and are carried on almost entirely in the homes of the workers ; they exist mainly to supply the local demand for clothing and a few other articles in wool and cotton. Weaving is carried on exclusively by women, who are chiefly occupied in producing the outer garments worn by Arabs of both sexes, and known as *barrakans*. The loom used is horizontal. The cotton yarn is obtained mainly from Italy, who since the annexation has been exerting herself to oust entirely the Manchester article which was formerly preferred.

She is also beginning to supplant the Bradford wool, which for the last ten years has been chiefly used in the manufacture of woollen *barrakans*.

Carpets.—The brightly coloured woollen carpets with geometric designs which are made at Misurata have a certain commercial importance, being esteemed all through North Africa. The work is coarse, owing to the defects of the primitive upright loom in use : if these could be remedied without making the machine too complicated, the carpets might be fitted for the European market.

Silk.—The spinning, cleaning, and dyeing of silk is also a home industry, carried out in a very primitive way. The silk is almost exclusively Chinese and comes via Marseilles. With the exception of cochineal imported from Asia Minor, coal-tar dyes from Germany are employed.

The weaving of silk *barrakans* for wealthy Mohammedan and Jewish women is carried on on a small scale by highly skilled craftsmen. Their products are really artistic, and, though chiefly absorbed by the home market, find their way also to Egypt and Cyrenaica. The trade is worth about 400,000 *lire* annually.

Embroidery.—The Jews do a good deal of embroidery in silver on silk and velvet, producing expensive garments for Arab and Jewish women, and also for the chiefs of the Sudan. Embroidery in silver on leather reaches a high artistic level; it is done chiefly by Arab workmen. Goldsmiths' and silver-smiths' work is mainly in the hands of the Jews, and is also of good quality; the trade is chiefly internal, but there is a fair amount of exportation to Egypt, Cyrenaica, and Tunis, the whole trade amounting to 1,000,000 *lire* annually.

The silver is imported in bars from France and Italy.

Ostrich feathers.—The cleaning of ostrich feathers is another industry of Tripoli: besides the feathers of the Sudan, many from Cape Colony come here via Liverpool, as they acquire a higher value by export from Tripoli. Feathers are exported to Marseilles, Trieste, and Milan.

Ivory.—Though the ivory trade with the Sudan has greatly fallen off, some ivory working is done in the town of Tripoli, where umbrella-handles, paper-cutters, and cigar-holders are produced for the European market.

Rush mats.—A native rush growing near the sea is used in the manufacture of mats, especially at Misurata. This before the war was a growing industry. A third of the total production used to go to Turkey, and a good deal of the rest to Alexandria, Cyrenaica, and Tunis.

Sponges are found all along the coast of Tripoli and fetch a good price in the European market. The average annual yield is worth about 2,000,000 *lire*, an important fraction

of the total Mediterranean output of 10,000,000 *lire*. The industry, carried on mainly by diving, is largely in Greek, partly in Italian, hands. It is regulated by Government, and can only be exercised by persons holding Government licences. In 1913 Greece took 40 per cent. of the yield, England 18 per cent., Italy and Holland 17 per cent. each, and Tunisia 8 per cent. A rough preparation of the sponge is carried out by the fishers: 'commercial' preparation used to be given by the Bank of Rome in Tripoli, but this was intermitted in 1913. Fishing is carried on throughout the year, but with greater activity in summer.

Foreign Industrial Enterprises.—Before the Turco-Italian war a few industrial undertakings on a small scale had been started by Italians, including a flour mill and an oil factory under the auspices of the Bank of Rome in Tripoli. Since the annexation the number of these has increased enormously: but their prospects of success are necessarily uncertain still. Much the most important are the works of Signor Gandolfi, an Italian of long colonial experience, acquired in Eritrea. The labour employed in this establishment is mainly Italian: its activities include, or are to include, metal founding, the construction and repair of machinery, and wood-sawing. There are three or four other saw-mills, employing Italian workmen, four ice-factories, two electric power stations, and four hydraulic presses for esparto, besides minor undertakings.

PART II. CYRENAICA

Cyrenaica has the same economic disadvantages as Tripoli. Its water-supply from springs and wells is even worse, and there are no impermeable rock-layers to facilitate the storage of the scanty rainfall. Large irrigation works are thus impossible, and there is no trace of any such having existed in ancient times; nor does the country seem to have supported, even at the height of its prosperity, a population of more than a quarter of a million. Conditions have since then changed slightly for the worse; perhaps on account of

the destruction of ancient forests, relics of which, consisting chiefly of cedar and cypress, have survived as far inland as Merj. But the view that Cyrenaica once had a high rainfall and was completely overgrown with forest is an exaggeration. The tree-belt, as described by Strabo, covered a narrow strip only, and the rainfall was probably never higher than it is at present. The Italians intend to re-afforest considerable areas.

On the other hand, the natural resources which supported the brilliant Graeco-Roman civilization of ancient Cyrenaica are certainly capable of better employment than they have received in modern times. The soil, though patchy, is exceedingly fertile, and the climate healthy and suited to a great variety of vegetation. Owing to the height of the plateau, the conditions are not unlike those of Sicily and Southern Italy, and the flora is much more varied than that of Tripoli. The backwardness of Cyrenaica must be attributed very largely to its population, which is predominantly Arab and lacks that strong Berber element which in Tripoli forms the most enterprising and industrious section of the inhabitants.

Live Stock.

The population of Cyrenaica is almost entirely nomadic and pastoral. There are (apart from the southern oases) only three centres of settled habitation, Benghazi, Derna, and Merj. Elsewhere the population is stationary only during the rains, moving in the dry season from pasture to pasture with its flocks and herds, which include camels, cattle, sheep, goats, horses, and donkeys. Only the camels, horses, and donkeys of well-to-do townsmen remain in one spot throughout the year; their cattle and sheep are entrusted to paid herdsmen.

In 1892 the amount of stock in the province was estimated as follows :

Sheep	6,000,000
Goats	2,080,000
Cattle	50,000
Camels	5,000,000
Horses	20,000

These figures probably represent what in normal conditions under the old régime the land was able to support ; the existing numbers are probably much lower, owing to the number of dry years between 1898 and 1908, and still more to the Turkish-Italian war.

The *camel* is used for all heavy transport, and a good deal of agricultural work ; the flesh is eaten, and the milk, hide, and hair are all valued products, the last being used by the natives for making textiles and cord. Camels are exported in considerable numbers to Egypt.

The *cattle* are small and not very valuable as meat, owing to poor feeding. They are, however, exported to Malta. The cow yields a small amount of milk of fairly good quality.

Goats, mainly of the Sudan breed with only a small admixture of the Maltese variety, are widely diffused and valued for their hardiness ; they can go for two or three days without water.

The *sheep* are almost exclusively of the Sudan breed, but a few Angoras are imported from Egypt or Syria. In spring great flocks used to be brought down to Benghazi, the principal market, returning later to the plateau, where they remained till the rainy season. In July and August large numbers were bought up by speculators and sent by the land route to Egypt, their arrival being timed to coincide with the feast of Bairam at the end of September, when the consumption of meat is very great. Mutton used to be exported to Smyrna, certain of the Aegean islands, and Syria. The wool and milk of the Sudan breed are abundant ; and the animals can go for three days without water.

Horses are bred for riding only ; *donkeys* are used for transport.

Poultry and *eggs* were very abundant before the war, and there used to be a considerable exportation of eggs to Malta ; but this is no longer the case.

During the Turkish-Italian War the population suffered very severely from the demands and depredations of the Turkish troops, and normal conditions are not yet re-estab-

lished. The Italians hope ultimately, when breeds have been improved and more attention is paid to proper feeding, to obtain from Cyrenaica much of the meat for which they at present depend on the Argentine, the United States, and Australia.

Agriculture.

Arable land is found in the oases of the coast plain and on the northern zone of the plateau. The coastal oases are believed to continue E. of Derna to the Egyptian border, and to be cultivated by the Arabs. On the plateau soil is found principally in shallow depressions in the limestone : forming cultivable patches which vary in area from a few square feet to hundreds of acres. No hard and fast line can be drawn between the plateau and the desert into which its southern slopes gradually descend ; but S. of Solue, Bu Mariam, Benie, Jerdes, Marawa, Sira, and Slonta, cultivation becomes exceedingly scanty. The largest arable tracts occur (1) round Derna ; (2) in the neighbourhood of Cyrene, where some good springs exist, and on the route to Messa, round which there is a large tract only partially cultivated ; (3) in the plains of Merj and Silina, which possess an admirable soil, but are entirely dependent on rainfall.

Agricultural methods are exceedingly primitive. Manuring is done by grazing cattle on land which is to be ploughed. The implements in use are a rude plough, generally drawn by a horse, camel, or donkey, seldom by oxen, and a small hoe : the spade is unknown. The land is ploughed or broken up with the hoe in October ; the grain is sown in the furrows, and left to itself : it is not even covered with earth as a protection against the wind and birds. A tenfold crop is regarded by the natives as a fair average, and in a good year twenty-five- or thirty-fold may be obtained ; but droughts causing a serious diminution and sometimes a total failure of the crop occur on an average every five or six years.

Prospects of agricultural development.—How far it may be possible to increase the yield of the colony is at present

a matter of speculation. The water-supply is not sufficient for all the land which might otherwise be brought under cultivation ; on the other hand, native methods of irrigation are wasteful, and in some localities (e.g. round Cyrene) the existing supply is not fully utilized. Something too might be done by the introduction of scientific dry farming. It would not, however, be easy either to alter the traditional methods of the Arabs or to introduce European settlers amidst a jealous nomadic population. Nor can the amount of water available be increased except by the construction of reservoirs for the storage of the rainfall, which would involve very heavy expenditure.

Crops.

Cereals.—The chief crop is barley, of which there used to be a considerable exportation to Great Britain for the manufacture of whisky. The cultivation of wheat was formerly much commoner than at present, and may be revived under the Italian régime ; barley, however, will always have the preference as a hardier crop and better able to resist the frequent droughts. Oats are also grown, and where there is irrigation (e.g. in the neighbourhood of Cyrene) maize is grown for fodder ; it is cut unripe, and three or four crops are obtained in the year.

Garden produce.—Irrigated gardens exist chiefly in the oases of the coastal plain. They produce a large variety of fruit and vegetables, of which the most important are figs, pomegranates, tomatoes, onions, and potatoes. These are grown in considerable quantities. The vine is very prolific but not common ; the inhabitants being Moslems have no motive for extending its cultivation.

As in Tripoli, the Italians hope to establish an export trade in early fruits and vegetables ; with a good steamer service this should be possible for the zone round Benghazi, while the area might subsequently be extended by the development of railways.

Dates.—The date-palm grows at Benghazi, which marks

the northern limit of its productivity. It is cultivated in the coastal plain and the desert oases, but hardly occurs on the plateau, as it demands regular and abundant irrigation. Here as in Tripoli it is valued not only for its fruit, but for its wine, for firewood, and for the leaves, which are used in thatching huts and in making mats and baskets ; the stones are crushed and given as fodder to the camels.

Olives.—The olive is successfully cultivated at Benghazi ; on the plateau it grows wild, and the fruit is left to the goats. Hence the supply is insufficient to meet local needs, and oil is imported from Crete and elsewhere, Italian oils fetching the best prices at Benghazi in 1913-14. But there seems to be no reason why the cultivation should not be greatly extended, and become one of the main resources of the colony.

Tobacco is at present grown round Derna only.

Halfa.—The fact that *halfa* or esparto grows wild at a distance of about 50 miles inland may come to be of great commercial importance ; at present it is not gathered.

The *silphium* which was so great a source of wealth in antiquity has never been identified. Either it was exterminated in ancient times, or its properties have no commercial value at the present day.

Trade.

Exports.—Besides barley, live stock and meat, to the former trade in which allusion has already been made, almost the only articles of export are *butter* and *wool*. Butter had a good sale in Egypt, Asia Minor, and Turkey, and will probably do so again ; it is, however, too rancid ever to find a European market. Wool, which is sold in a very dirty condition, goes to Marseilles, Genoa, and Trieste.

Imports.—Owing to the presence of Italian troops and to the growth of the Italian element in Benghazi, there is a considerable importation of foodstuffs and other goods from Italy.

Cotton goods form the chief article of native consumption. The Italians are rapidly capturing their trade, formerly

a monopoly of Great Britain. Other imports are carpets from Misurata in Tripoli and from Smyrna ; printed cottons, silk handkerchiefs, and corals from Italy ; glass and iron-mongery from Germany and Austria. Many of these articles, especially the cotton stuffs, used to find their way to Wadai and Darfur in exchange for skins, ivory, and ostrich feathers, and for gold dust and precious stones in small quantities.

The caravan route from Benghazi to the Sudan is not ancient, but was opened up early in the nineteenth century by an enterprising Sultan of Wadai. It is arduous in the extreme and scantily provided with water, and could hardly have maintained itself in competition with the more convenient route via Murzuk to Tripoli but for the insecurity of the latter, which in the Tibesti and Tummo regions was infested with brigands. Moreover, owing to the absence of European surveillance, the slave-trade was maintained by the Benghazi route after it had been put down elsewhere. But the development of communications in the Sudan, Nigeria, and the French colonies has steadily tended to divert traffic alike from the Benghazi and the Tripoli caravan routes ; and the Wadai trade, totally broken off by the Turco-Italian war, had not in 1913 been resumed.

The trade of Cyrenaica has always been liable to considerable fluctuations, ability to purchase foreign goods depending entirely on the barley crop and the pasturage, and these on the amount of rainfall. Between 1898-1908 there were several bad seasons, culminating in the drought of 1908, which plunged the entire country in misery. The Italian occupation of 1911 interrupted agriculture altogether, and subsequently the prolonged resistance of the Beduin tribes prevented produce from reaching the capital, the entire crop being retained by the Beduin themselves. Even in 1913, after an unusually good rainfall, the quantity of grain brought to the Benghazi market was extremely small ; and exportation is still prohibited by the Italians. The arrivals of wool and butter from the interior have fallen off, scarcely reaching one-tenth of the average annual amount before the war,

while, as has been said, the trade from Wadai in ivory and feathers has entirely ceased. Hence the most recent figures reflect abnormal conditions, and a better idea of the resources of the province can be obtained from those of 1905, a good average year.

Trade statistics of 1905.—The barley exported in that year from Benghazi amounted to 80,000 tons, of which 75,000 (value £393,750) went to Great Britain, and 5,000 (value £26,250) to Tunis, Tripoli, and Misurata. The total crop of the province was estimated at 116,000 tons. In the same year the return of the other chief exports was as follows :

1905 : EXPORTS

	Quantity.	Value.	Destination.
		£	
Sheep and goats . . .	200,000 head	120,000	Alexandria : a few to Malta and Canea.
Camels	4,000 head	36,000	Alexandria.
Oxen	5,000 head	20,000	Malta.
Horses	200 head	1,600	Malta, Alexandria.
Wool	500,000 kilos	17,000	Marseilles, Italy, America.
Cooking-butter . . .	100,000 kilos	8,600	Canea, Alexandria, Constantinople.
Skins (goat, sheep, lamb)	5,500 dozens	5,880	Marseilles.
Ostrich feathers . .	3,300 kilos	3,960	France.
Ivory	10,000 kilos	104,000	Gt. Britain.
Eggs	300 cases	750	Malta.

1905 : IMPORTS

		Quantity.	Value.
			£
Long-cloth	Pieces, 20 to 30 yds.	40,000	11,200
Waste-cloth	Pieces, 12 to 18 yds.	20,000	1,500
T-cloth	Pieces, 24 yds.	8,000	3,200
Blue-cloth	Pieces, 22 to 26 yds.	12,000	3,600
Coloured handkerchiefs	Dozens.	80,000	6,000
Coloured prints . . .	Pieces, 20 to 40 yds.	8,000	2,600
Total			28,100

With the exception of a part of the coloured handkerchiefs which came from France, these goods were imported

exclusively from the United Kingdom ; since the Italian conquest, however, British trade has declined in favour of Italian. The Italians have not yet fixed a tariff discriminating against the goods of other nations ; but in many cases Italian goods are assessed for the calculation of customs duties at only 50 % of the invoice values. The same protective principle is followed in the case of anchorage dues, and will probably be maintained in the new tariff at present under consideration. Under these conditions the large and growing preponderance of Italian trade and Italian shipping will necessarily be maintained.

Banks.—The Banco d'Italia and the Banco di Roma have branches at Benghazi.

Trade of Derna.—In 1902 the value of the imports was £29,026, and that of the exports £16,499. In 1912 imports suddenly increased to about six-fold, owing to the Italian occupation, and continued to rise sharply till the middle of 1913, when they dropped again to half the maximum attained. The conditions being still abnormal, detailed figures are of little value. In 1913 Italy was by far the largest importer, followed by Egypt and Austria. Foodstuffs and building materials constituted the chief items.

Industries.

Industries, so far as they can be said to exist in Cyrenaica, aim only at supplying local needs. Shoes and other leather articles are made, and clothing of the ordinary sort ; the wealthy import European boots from Tunis, and finer clothing from Egypt and Tripoli.

Sponge fishery.—The coast, like that of Tripoli, is rich in sponges. Fishing used to be carried on entirely by Greeks, and so long as the Turkish Government permitted diving, the duty of 6s. to 10s. per kilo sometimes brought in as much as £80,000 to the treasury. When diving was prohibited, the yield of course diminished greatly ; 35,000 kilos were obtained in 1905, and 25,200 in 1906.

It is probable that Greek fishers will now be replaced, at any rate to some extent, by Italians.

Salt deposits.—The working of these, as in Tripoli, is under the control of the International Administration of the Public Debt. A large quantity used to be exported from the Benghazi deposit to Turkish ports ; but this seems likely to be abandoned, owing to its poor quality. Other regions hold out better prospects.

CHAPTER VII

HYGIENE

Diseases.

THE climate of Libya is not at all unhealthy. During the hot weather, the dryness of the air is favourable to health; and the prevalent diseases are due rather to the insanitary habits of the natives and the absence of sanitary control in the past than to any natural unhealthiness in the climate. In this respect a great improvement may be expected to result from the Italian occupation.

The chief diseases to be guarded against are the following: first and foremost, *malaria*, which is widespread in all the oases and in the neighbourhood of *sebkha* or salt marshes, but can easily be checked by systematic draining and filling-in such as the Italians have undertaken at Tripoli and elsewhere; *dysentery*, which can be guarded against by careful control of drinking-water and avoidance of fresh fruit and vegetables; *syphilis*, which is extremely common in the interior as well as in the coast-towns, and can only be avoided by regarding every native as infected until the contrary is proved; *ophthalmia*, which in one form or another is practically universal among the natives, partly owing to the sun-glare and dust, but much more to lack of hygienic habits; *typhoid*, inoculation against which is imperative and produced good results in the war of 1911-12; *leprosy* and *tuberculosis*, which are unlikely to attack members of an expeditionary force. *Sunstroke* is a serious danger.

The relative commonness of these diseases among the native population may be judged from the following table, which represents the cases treated at the Vittorio Emanuele III Hospital at Tripoli. It must be remembered that certain diseases (e. g. *malaria*, *syphilis*) are certainly much more

common than would appear from the figures, since a smaller proportion of the persons suffering from these would visit the hospital than in the case of some other diseases.

*Cases treated in the Vittorio Emmanuele III Hospital
(Tripoli), 1912-13.*

	1912.	1913.
Dysentery	20	4
Malaria	99	37
Syphilis	57	26
Gonorrhoea	—	22
Typhoid	27	12
Tuberculosis (pulmonary)	33	23
„ (in bones)	32	31
„ (other forms)	8	35
Phagedaena (ulcer)	30	20
Gastro-enteritis	72	66
Bronchitis	28	29
Pleurisy and similar complaints	23	56

Malaria. During the last twenty years, the men of science have revolutionized our knowledge of malaria, and have taught us how to fight and beat it on its own ground.

The cause of malaria is a protozoal organism, which was discovered in the blood of a malarial patient in 1880 by Laveran, a French army surgeon. In 1894 Manson, after his discovery that the mosquito is the intermediate host of filarial disease, advanced a similar theory of malaria—that the mosquito is its intermediate host between man and man. In 1898, Ross, after three years' work, proved the truth of this theory.

Ever since 1900, the work has been to keep down malaria by keeping down mosquitoes. The female lays its eggs on stagnant water—pools and puddles, ditchwater, marshes, uncovered wells and cisterns, and chance collections of rain-water. Therefore, the larger surfaces of water are filmed with kerosene, so that the larvae cannot breathe; puddles are swept out, ditches are drained and set running, tanks and

waterbutts are covered, and the surface-soil is tidied and cleared of all the rubbish that catches rain-water. The breaking-up of the haunts of mosquitoes is the breaking-up of malaria. In Greece and Italy, Egypt, Africa, India, and above all in the Panama zone, the reduction of malaria, by simple measures of this kind, is past all telling. But where a considerable portion of the native population have malaria in their blood—the children, especially, are likely to have it—and where sanitation is hardly known, the risk of malaria, to white men just come there, is great, if they are not careful to protect themselves.

Dr. Bagshawe, Director of the Tropical Diseases Bureau, writing of the African tropics, says :

Always use a mosquito net. This may seem a counsel of perfection. On the one hand, the claims of campaigning may make it appear difficult to carry such an article in one's kit, and on the other hand there are places where a net seems, to one unversed in tropical hygiene, unnecessary ; moreover, in the hotter districts it is unpleasant. To this the reply may be made : A net need not weigh much, and will pack into small compass ; and except on high levels—say 8,000 ft. or more—there is always risk that a few malaria-carrying mosquitoes may be present, though unobserved, and bite the unprotected sleeper. The net protects the user from the mosquitoes which convey malaria and filarial blood-worms, as well as from snakes and ticks. Native servants will find a way of fixing it up in camp, and this must be done before dark. The edges should be tucked under the mattress, not allowed to hang down to the ground. Care should be taken to kill any mosquitoes which enter with the sleeper. The net should be white, and not green—against which colour it is hard to see them. The writer was used to read in bed for a few minutes, in case a mosquito should make its presence known : if so, it was killed, the boy outside the net assisting with a light. No part of the body should rest against the net, which should always be stretched tight. When holes appear, which they are sure to do, the tissue surrounding the hole should be caught up and tied round with string, so as to completely close the aperture. A net with holes is nothing but a mosquito-trap baited with a man. The careful and

intelligent use of a mosquito-net is the first essential of health in Tropical Africa.

Other protective measures are : (1) the choice of a dry camping-ground, at a fairly high level, free from stagnant waters, and a mosquito's flight away—say a quarter or half a mile—from a native village ; (2) special care, in the evening, to protect face, hands, and ankles against mosquitoes ; (3) the use of quinine as a *protective* drug. Note, that quinine is not a mere ' tonic ' : it has a direct specific action on the *plasmodium malariae*, such as salvarsan has on the *spirochaetes* of syphilis.

Dysentery. An infection, mostly water-borne, of the mucous membrane of the large intestine, giving rise to pain, griping, frequent desire to go to stool, and the passage of frequent small stools containing slime, or slime and blood. The suffering is sometimes intense. As the disease goes on, the bowel tends to become ulcerated. In some cases, dysentery is followed by relapses, or by chronic dysentery, or by abscess of the liver.

Three principal factors are at work in a case of dysentery : (1) the preliminary influences—such as, chill, bad food, purgatives, intestinal worms, and intemperance—which lower the natural resistance of the large intestine to infection ; (2) the actual invasion of the intestine by the germs of the disease ; (3) the subsequent invasion of the intestine by the ordinary germs of suppuration, which tend to form ulcers.

There are two chief types or forms of dysentery. In the one, the intestine is invaded by germs of the order of bacteria ; in the other, by germs of the order of protozoa. We call the one, bacillary dysentery ; and the other, amoebic dysentery. The two forms may co-exist in this or that case, as it were by chance, but the distinction is none the less valid. Bacillary dysentery is epidemic dysentery ; it occurs in all latitudes. Amoebic dysentery is endemic rather than epidemic ; it occurs only in warm climates, or in the warm season of temperate climates. In India, amoebic dysentery is far more common than bacillary dysentery.

Amoebic dysentery mostly commences insidiously, without marked fever; it is generally subacute or chronic in its course; it is apt to recur or relapse; it is often associated with congestion of the liver, and sometimes causes abscess of the liver. It rapidly improves under treatment with ipecacuanha, or, better still, with emetine, which is the alkaloid of ipecacuanha. We owe the discovery of emetine to Sir Leonard Rogers.

Bacillary (epidemic) dysentery is mostly acute in character, often with initial fever; it runs its course, and is not apt to relapse; it does not tend to cause abscess of the liver; and an attack probably confers a measure of immunity against a second attack. It is hardly influenced by emetine, but good results have been obtained with a specific antitoxin. We owe the discovery of this antitoxin to Shiga, a Japanese man of science.

Protection against dysentery mostly consists in securing a pure water-supply; in the avoidance of all 'predisposing causes'; in correcting either constipation or diarrhoea; in the isolation of cases and of suspects; and in careful sanitation, especially regarding the disposal of faecal matter and the keeping down of flies. Remember also that as there are carriers of cholera and of typhoid, so there are carriers of dysentery: and a man recovered from dysentery ought to be warned, and ought not to have the handling of other men's food.

Ophthalmia. This general word is used of all forms of inflammation of the surface of the eye. In all tropical countries, neglect of cleanliness and sanitation makes ophthalmia terribly common, especially among the children. Dust and dirt and the glare of the sun favour infection; and flies carry it on their feet from case to case. In *gonorrhoeal ophthalmia*, a man conveys the germs of gonorrhoea to his eyes by rubbing them with unwashed fingers.

Typhoid Fever (enteric fever). The germs of typhoid fever were discovered in 1880-1. The first use of protective 'inoculation' in this country was made by Sir Almroth

Wright and Sir David Semple, at Netley Hospital, in 1896. Regarding the value of this treatment in the present war, the figures given in June 1916 were as follows :

Among our Expeditionary Force in France and Belgium about 97 per cent. have been protected against typhoid fever ; the annual average being about 95 per cent.

The annual admission ratio per 1,000 is more than twelve times greater among the non-protected than among the protected. Among the non-protected it is 7.5 per 1,000. Among the protected it is 0.6 per 1,000. The death-rate is fifty times greater. Among the non-protected it is 1.51 per 1,000. Among the protected it is 0.03 per 1,000.

Typhoid fever, among a large body of men, may be spread by flies, settling first on typhoid discharges and then on food or milk. Also patients recovered from typhoid may still carry the germs inside them, and pass them in their discharges, and convey them on soiled fingers. No such person should be employed on the preparation or serving of food to troops till careful microscopic examination of his discharges has proved that he is not a 'typhoid-carrier'. In the presence of typhoid it is impossible to be too clean, or too careful over all measures of sanitation.

(Paratyphoid fever may be called a sub-species of the fever. Clinically, it may be very hard to distinguish paratyphoid from typhoid. The germs of the two fevers are alike in some ways, but not identical. There are two kinds of paratyphoid germs, called A and B. The methods of spreading, and the risk of carriers, and the precautions against infection, are the same in paratyphoid as in typhoid. A special paratyphoid vaccine is now in use : it can be given in conjunction with typhoid vaccine.)

Sunstroke. It is generally held that the conditions which are called sunstroke, heat-stroke, &c., may be classified under three principal forms ; but these of course do not absolutely exclude each other :

(1) 'Heat-exhaustion.' A man in perfect health, suitably clothed, or half-stripped, and not overworked, can stand, as

we all know, exposure to very great heat : for example, glass-blowers, sugar-boilers, and stokers. But a man over-fatigued, or with health impaired by malaria or intemperance or any other bad influence, may faint from exposure to heat, either in the sun or in the shade. In a simple faint from heat-exhaustion a man lies quiet, with face pale, skin chilly, pulse weak, breathing soft (not noisy), temperature not raised ; he may soon come round, perhaps with a very bad headache. The treatment of these cases must be gently stimulant, not depressing : no violent cold douching.

(2) 'Siriasis.' This old Greek word for 'sunstroke' has come into use again for what seems to be truly a tropical disease. Manson defines it as an acute disease, developing in the presence of high atmospheric temperature, and characterized by sudden very high fever, coma, and intense congestion of the lungs. It is unknown in Europe : and many large areas in the tropical world, especially inland, are exempt from it. 'It is not met with on the high seas, although it is well known on ships in the narrow, land-locked Red Sea and the Persian Gulf.' The geographical distribution of siriasis, and its circumstances and symptoms and course, are like those of a real specific disease ; and Manson is inclined to Sambon's theory, that 'siriasis' is a true germ-disease, a veritable infection, which requires for its development a high atmospheric temperature and other favouring circumstances. It may have premonitory symptoms, as danger-signals—lassitude, headache, intolerance of light, irritability of the bladder ; then comes restlessness or wild delirium, which very rapidly is followed by complete unconsciousness ; face suffused, breathing noisy, pulse very quick, skin burning hot, and temperature rushing up to a height which may prove fatal within a few hours. For these terrible cases the most urgent immediate treatment is cold douching, cold pack, or ice pack, till the temperature is down to 102, but not longer ; then a warm blanket, and perhaps stimulants, but not strychnine. Quinine must be given if the patient has had malaria. If the breathing threatens to stop, artificial respiration should be done.

(3) In a third, ill-defined, group of cases it seems that certain rays of the light of the sun have a direct effect on the tissues, and may even cause, in some cases, meningitis: the action of the actinic rays on the skin, and the action of X-rays, seem to be analogous to this condition. The symptoms are those of meningitis, or what is vaguely called 'brain-fever'; and the treatment is on the lines of the treatment of meningitis: absolute quiet in a cool darkened room; the head shaved, and kept cool; bromides, light diet, no stimulants.

General Notes on Hygiene.

The following notes, extracted from an Italian official publication, may give some idea of the methods adopted by them. The sections on water, clothing, and camps come from the same source. Whether the rules laid down are rigidly observed in practice cannot be said.

An expeditionary force should include men of 25-35 years only. They must be vaccinated, inoculated against typhoid, and supplied with quinine; men unable to take quinine should not be included. Campaigns should not begin in July, August, or September, owing to the unhealthy conditions, excessive heat and almost total lack of water. March-May and October-December are the most healthy months.

Troops should be removed as soon as possible from the marshy and malarial coast, and all movements and severe labour should be arranged, so far as convenient, in the early morning or evening. Men cannot be expected to carry such heavy weights as in European conditions.

In the climate of northern Africa the respiration is less active than in Europe; this tends to impoverish the blood and facilitate blood-poisoning, anaemia, and parasitic diseases. The predisposing cause of these diseases, consisting in deficiency of oxygen in the blood, can be removed by exercise, the use of tonics, and careful ventilation of all dwellings.

Over-nutrition and excessive use of alcohol are especially harmful; diet should be moderate, with a good proportion

of fresh vegetables. These must, however, be so treated as to avoid dysentery.

Officers are advised whenever possible :

(a) To avoid marching either between 9 a.m. and 3 p.m. or by night or in the small hours of the morning ; the former period being too hot, and the latter the only time at which sleep is practicable.

(b) To see that troops in camp are not cramped for room, and do not occupy the same ground too long, for sanitary reasons.

(c) Not to allow troops which have been suffering from disease to mix with troops which have escaped infection.

Natives selling foodstuffs should never be allowed in camp.

It is advisable to restrict the meat ration and to avoid dried and salted meat. Arab bread is preferable to biscuit. Strongly alcoholic drinks are to be avoided, but tea and coffee are valuable. The midday meal should be lighter than the evening meal, and all food should be cooked and kept out of the reach of flies.

Italian officers are recommended to impress upon their men the following rules :

Avoid excess in eating and drinking ; especially avoid native foodstuffs.

Eat no raw and unwashed fruit.

Avoid alcoholic drinks ; tea and coffee are preferable.

Never drink water unless it is known to be safe.

Never expose the bare head to the sun, for however short a time.

Do not sleep on the bare ground, and never lie on the ground in the sun.

Remember that syphilis is more common and more severe than in cold countries.

Water.

Great care must be bestowed on the water-supply. The shortage of water is nowhere a greater impediment to military operations than in Tripoli, and it contributed largely to the inactivity of the Italians in the Turkish-Italian war. The supply comes almost entirely from wells. When these are

deep and sufficiently distant from houses, they yield water which can be drunk without danger. As a rule, however, even water of this kind undergoes contamination between the well and the consumer, and cannot be regarded as safe. The wells in towns are almost always infected by cesspools and must be avoided. The only really safe source of supply is a deep well from which water is drawn and stored under proper sanitary conditions, and such only exist where they have been installed by the Italians. They now exist not only at the large towns but in the chief villages of the Tripolitan Jebel. The wadis bring down water in the rainy season ; but this surface water is quite unsafe for drinking purposes and likely to cause dysentery.

Wells (Arab. *bir*) should be not less than 30 ft. deep, and quite 200 yards from any possible source of infection. They should be lined with stonework, concrete or some other protection against surface water ; a strong parapet round the well-head is necessary for the same reason, and the mouth must be kept covered.

Springs (Arab. *ain*) give good water, but care must be taken to ascertain that a supposed spring is not merely the point at which a water-course, possibly infected, reappears at the surface.

Clearing.—Turbid water can be allowed to stand and decanted, or cleared by the addition of a little alum : or it may be filtered. It is most important to remember that these processes do nothing to purify the water of disease-germs ; and that a filter may, through becoming infected, be a positive danger. Many portable filters are very easily broken ; rough substitutes may be made of a sheet of canvas, a layer of small charcoal spread on cloth in the bottom of a barrel or tin pierced with holes, an unused sponge squeezed into a large funnel, &c.

Sterilizing.—All drinking-water, other than water obtained under the exceptionally safe conditions mentioned above, must be sterilized. This is most simply done by boiling, which ought to last 15-20 minutes. It makes the water tasteless and indigestible ; this may be overcome by shaking

it up with air in a bottle, or by pouring it from a height in a thin stream. Water can also be sterilized by means of various chemicals ; e. g. citric or tartaric acid, 0.1–0.2 per cent., the process requiring 2 hours ; hydrochloric acid 0.1 per cent., 1½ hours ; permanganate of potash, a few drops of concentrated solution, whose violet colour disappears as it begins to take effect ; when the organic substances are decomposed, the water becomes faintly tinged with violet, and may in that condition be drunk. Apparatus for sterilizing water by heat under pressure, or for condensing distilled water, may be used, but is bulky and elaborate.

Cooling.—To prevent water from being unduly heated by the action of the sun, all tanks and pipes should be covered with earth to a depth of not less than 3 ft. Small quantities may be kept cool by evaporation, by using either porous pots or felt-covered bottles or skins, in the latter case keeping the felt damp. The Italians make extensive use of ice for this as well as for medical purposes.

Receptacles and transport.—Canvas bags are easily damaged and allow water to evaporate ; in hot weather they generally become empty in two days.

Skins are better, but often make the water taste bad, and do not prevent all evaporation. They must be kept carefully closed, and must not be laid down on the bare ground, or the water escapes through the skin ; they must therefore be laid on grass, leaves, &c., or suspended. If allowed to get dry they harden and crack very rapidly.

Casks or barrels must be cleaned with hot water as often as possible, both outside and in, and not left empty for long together. If proper precautions are taken, water can be kept good in them for 8–10 days. Spare bungs, taps, &c., are necessary. They should hold 5–10 gallons ; a large type for motor-transport holds 120–130 gallons.

Zinc tanks, reinforced externally with wood, are found to be satisfactory. The type recommended by the Italians weighs when full 110–160 lb. ; a camel can carry two.

Tanks can be improvised by packing kerosene or other

tins in a crate. They keep the water well, but are liable to rust and damage from rough handling.

A camel should be able to carry 33 gallons of water if economically packed, e. g. in the light metal tanks above described. A light car can carry as a rule 220 gallons. A column engaged in desert warfare should have several different means of water-transport (camels, mules, donkeys, porters, and cars), and be supplied with a sufficiency of collapsible tanks, troughs, and buckets, tackle for cleaning out wells, and pumps.

In the desert, wells must, as a rule, be cleaned out before using, as they are commonly blocked not only with sand but with organic and putrefying substances. Skilled natives can often be of assistance in this operation, which ought to be performed when possible a day before the arrival of the column.

Clothing and Equipment.

Clothing.—The Italians paid great attention to the clothing and equipment of their troops in the Turkish-Italian war. They prefer khaki on account of its adaptation to the colour of the landscape, and find cotton more suitable than wool, since cotton does not become soaked with perspiration, and keeps the body at a uniform temperature.

Sun-helmets are recommended for summer, and khaki caps or slouch hats for winter.

It must not be forgotten that the nights in winter are often cold, and warm clothing, Balaclava helmets, &c. are desirable.

Boots wear out very rapidly in the desert, especially if they are not freely and frequently greased. Light shoes can be made of raw camel- or cow-hide sewn with fine steel or brass wire; these are good for marching on sand. Slippers with esparto-grass soles are useful for resting the feet after marching on the hot and stony soil of the desert.

Tinted glasses or goggles should be worn to protect the eyes against the glare of the sun on the sand. They are equally valuable as a protection against flying dust and sand. If the glass (or, better, talc) is clear, they can be worn at night and smoked with a match for use by day.

In the hottest regions, with sun temperatures of 120°–140° F., clothing should be as light as possible, consisting simply of a white¹ cotton shirt and trousers, sun helmet, and native slippers.

Equipment.—It is advisable that soldiers should not carry packs. In desert regions the rifle, with side-arm and ammunition, water-bottle and haversack are all that men need carry, and troops thus lightly equipped are far more mobile and capable of doing heavier work than men overloaded under the violent sun.

The Italians found it advisable to arm their troops for hand-to-hand fighting, and recommend for this purpose a revolver and long dagger. These weapons were found valuable in the oasis-fighting near Tripoli.

The rifle must be fitted with a cover to protect the breech against sand; otherwise it is impossible to prevent its jamming. Cavalry should be armed with the lance rather than the sabre; the Italians found carbine and bayonet most useful.

Camps and Barracks.

Tents do not give adequate protection against the extreme heat and the violent changes of temperature. The protection is more satisfactory if the tents are high and provided with double walls. They should be pitched as far apart as possible, and their position frequently changed, in order to keep the ground ventilated. If covered with palm-leaves and sprinkled with water, they will be found cooler. The door should be directed towards the prevailing wind and kept open. The floor should be covered with boards, waterproof sheeting, or a layer of straw or esparto grass 3 inches thick.

Temporary barracks can be made in the form of wooden huts, preferably with double walls and roof. The lower roof should be of galvanized iron, 'rubberoid' or the like; the upper of palm branches or some other form of thatch. There should be a clear 18 inches between them.

¹ An English medical authority prefers khaki to white on hygienic grounds.

CHAPTER VIII

TOWNS¹

1. Coast towns of Tripoli.—2. Inland towns of Tripoli.—3. Coast towns of Cyrenaica.—4. Inland towns of Cyrenaica.

1. COAST TOWNS OF TRIPOLI

Zwara

THERE are two places of this name, the inland village and the port, distant about 2 miles. The inland village, on the site of the Turkish village, contains the Residency (a converted Turkish barrack, a square building one storey high with a tower at one corner), a small hospital (Ambulatorio Regina Elena) and the *Beladie* or town hall. These are practically new buildings, the old village having been destroyed by the Italian bombardment in 1912.

There is a large market-place, and daily communication by motor with Tripoli and the Tunisian frontier. Caravan roads to Ghadames and Fezzan. Population 3,000 (500 houses); population of the whole oasis, 4,800.

The port of Zwara is a military station only. It includes (a) a central group of buildings comprising the military headquarters of the province of Zwara, the offices of the military engineering service, telegraph office, store-houses, stables, &c. These are built of wood and 'Eternite'. (b) NE. of the central group are barracks for a battalion of infantry, each barrack being a U-shaped building capable of accommodating a company, with separate buildings for infirmary, kitchen, mess, stables and store-house. (c) A military pigeon-loft, a masonry building of two storeys SW. of the central buildings. (d) Water-supply, a reservoir excavated in a rocky

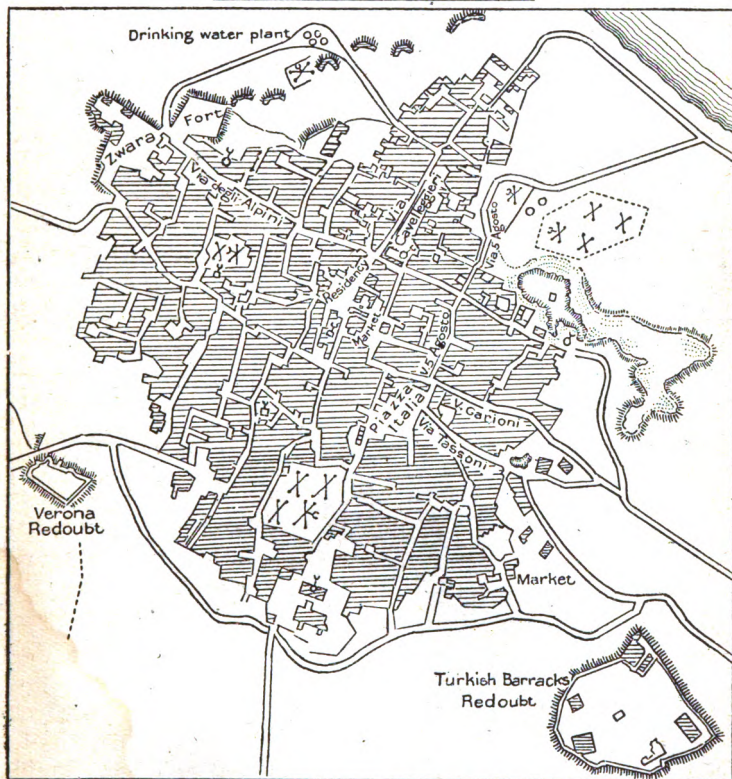
¹ Much of the information contained in this chapter relates to the period before the rebellion of 1914-15, when the Italian occupation reached its high-water mark. It is retained here in order to show how far the Italian occupation had actually advanced, and what tendencies it displayed.

promontory on the coast, holding 260,000 gallons, and a building containing plant for the distillation of sea-water, with refrigerator and quarters for staff. 8,750 gallons of water can

Zwara

Scale of Yards

0 100 200 300 400 500



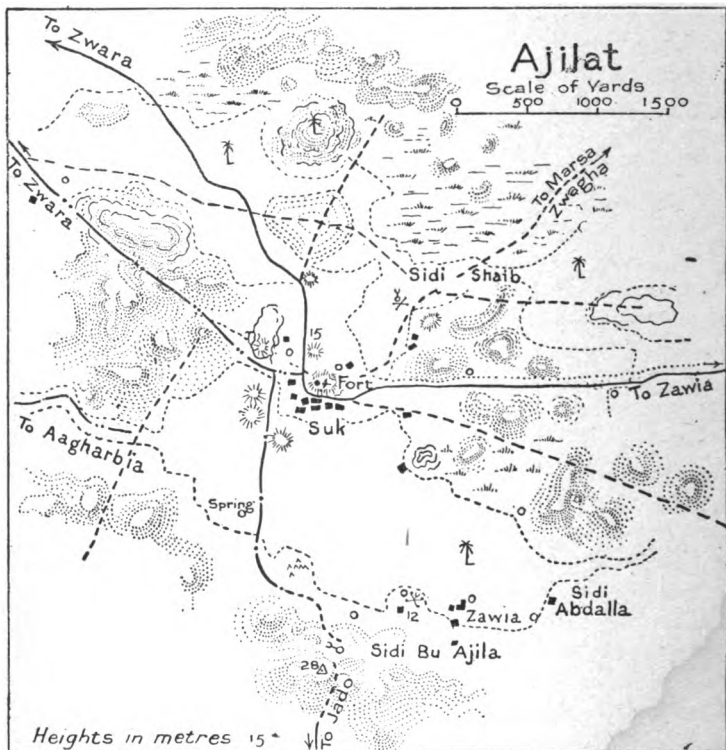
be supplied daily by this plant. The harbour is shallow and available for small craft only.

Telegraph Tripoli-Ferwa, and wireless station ; lighthouse ; post office.

The harbour is shallow and only accessible for small craft.

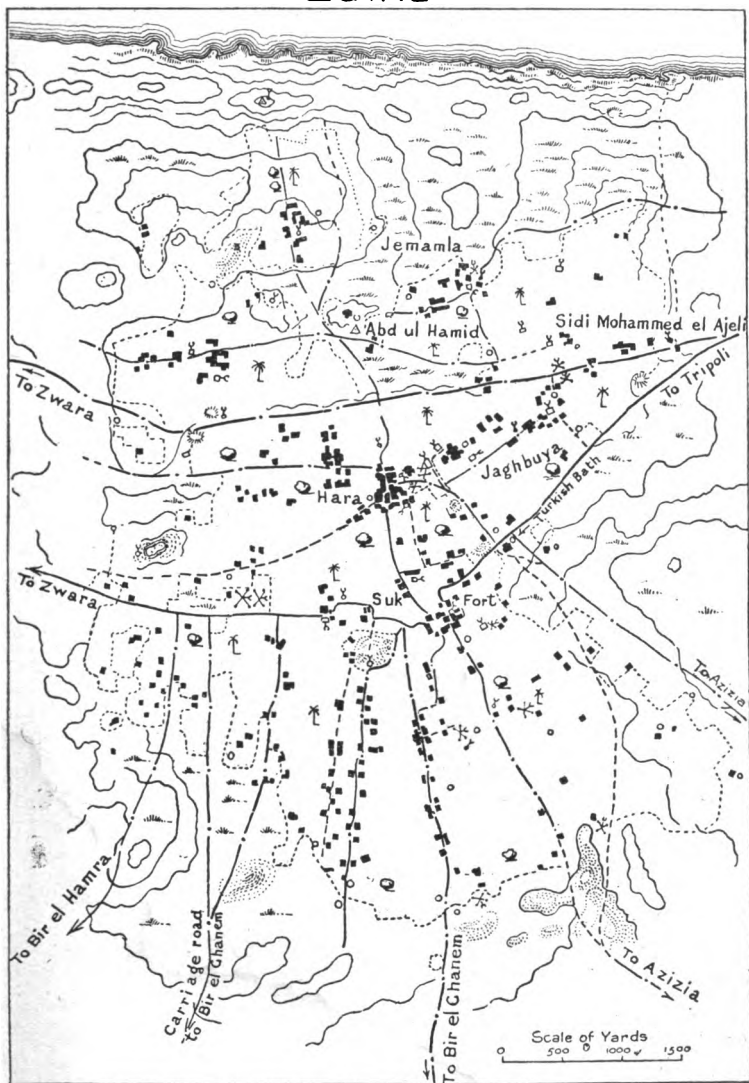
Ajilat or Bu Ajila

An oasis close to the coast between Zwara and Zawia, with about 7,000 inhabitants. The ruins of the ancient city Sabratha are in the immediate neighbourhood. There is a



kasr and a large market; Residency, garrison, and Royal Carabineers. Postal and telegraphic communication with Zwara and Tripoli; motor road along the coast, and probably by now railway to Tripoli also. Considerable export of barley, wheat, and dates. Some wells give a good supply of sweet water; others brackish.

Zawia



Zawia

Zawia is the most important centre of western Tripoli. It is the head-quarters of a district, and a considerable commercial centre. It is situated in a well watered oasis, with abundance of palms, olives, pomegranates, figs, apricots, grain, potatoes, &c.. There are two weekly markets. The railway from Tripoli was open in 1914.

A new barrack for a company of infantry has been built. The *kasr* has been improved by the addition of offices, infirmary, store-rooms, &c., and adapted for use as a Residency.

Telegraph Tripoli-Ferwa, wireless station, and post office.

Zanzur

Railway station (1914) 15½ miles WSW. of Tripoli.

Situated in a rich and well cultivated oasis, with 6,000 inhabitants.

Residency and barracks for Royal Carabineers and *Zaptie*.

Motor road, railway, and telegraph to Tripoli; wireless station and post office.

Ghargaresh

Ghargaresh is 8 miles west of Tripoli, of which it is almost a suburb. It has large quarries, extensively worked by the Italians, and is connected with Tripoli and Zanzur by rail. Barracks for a battalion of infantry have been built on the Tripoli road in four blocks, each to accommodate 150 men; separate buildings for officers, kitchens, &c., the whole enclosed by a wall. Electric light and good water-supply from a well, pump actuated by electric motor.

Motor road, railway, and telegraph to Tripoli; wireless station.

Zanzur & neighbourhood

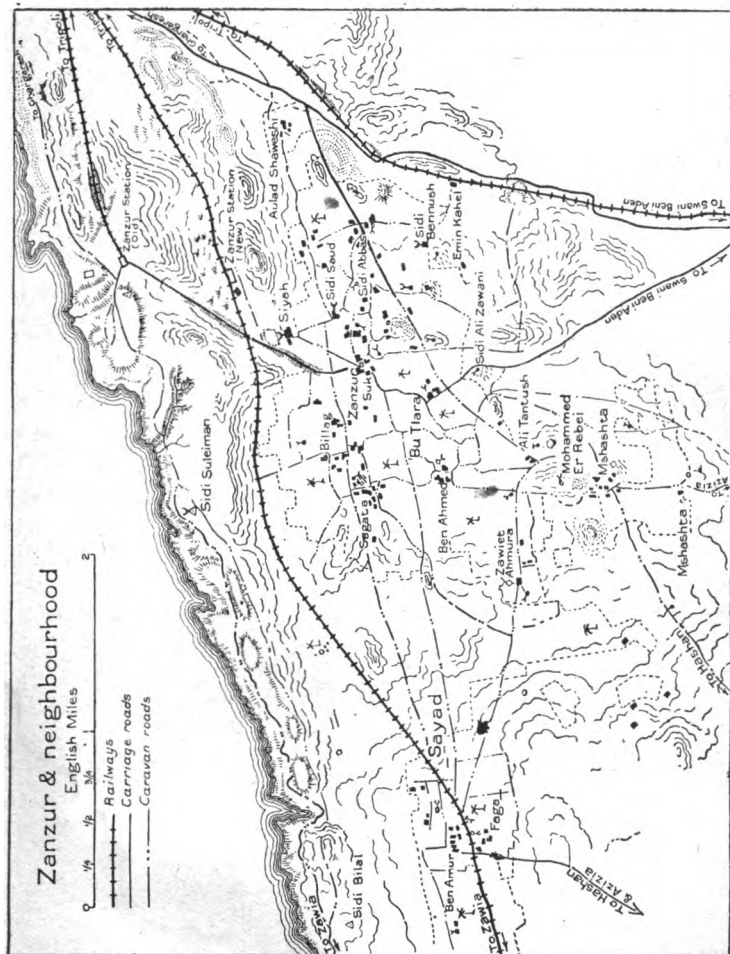
English Miles

0 1/4 1/2 3/4 1 2

—+—+—+— Railways

— — — — — Carriage roads

... .. Caravan roads



Tripoli

Tripoli (Trabulus el Gharb, or Western Tripoli, to distinguish it from the Syrian Tripoli) occupies the site of the ancient city of Oea. It is built on a spit of land jutting out into the Mediterranean Sea. On the east of the spit is a harbour, partly protected by a reef of rocks running NE. from the northernmost part of the town, where the so-called Spanish fort is situated. A smaller fort, the French fort, now in ruins, is built on an isolated rock off the NW. angle of the town.

The old town is enclosed by a wall 20–25 ft. high, with bastions, and is pentagonal in form. The longest side faces the harbour, and at the SE. angle is the *Kasr* (castle) standing high on a rock, formerly the Turkish governor's residence. South of this is a suburb, formed by houses clustering round the bread-market outside the gate, and lying along a number of roads which radiate from this point to all parts of the oasis. The Italian town will extend west of this suburb, leaving the old walled city practically unaltered.

The walled town.—The longest side, facing north-east, is 1,000 yards long and is pierced by the sea gate, Bab el Bahr, at the custom house. Bab el Khandik is situated at the south end of this side, and is overlooked by the *Kasr*. The wall now runs SW. for 350 yards, then turns again after a bastion and runs WNW. for 800 yards. There is a bastion in the middle of this side and another at the corner, beyond which is Bab el Jedid, the third and last gate. The wall runs hence 500 yards N. by W. till it strikes the summit of the rocks at the sea-shore, and follows these in a north-easterly direction for nearly 500 yards to the so-called Spanish bastion at the northernmost point of the town.

The town is roughly bisected by Suk el Harara, running about NE. from Bab el Jedid to the harbour. South-east of this is the chief Moslem quarter, which contains the chief mosques. A smaller Moslem quarter lies inside the NW. wall. Between these two comes the European quarter,

south of the custom house ; behind this again is the Jewish quarter (Harra), reaching to the western wall of the town. This is subdivided into Harra Kebir on the north and Harra Seghir on the south.

The streets are for the most part straight and moderately clean. Those of the Jewish quarter, however, are crooked and dirty.

The suburb.—The suburb extends about half a mile from the *Kasr* on the south. It includes the railway station, the bread-market, the esparto grass-market near the harbour, with jetty, the technical schools, and other modern buildings.

Population.—The present population of the whole town is about 68,000.

Civil Hospital (Ospedale Vittorio Emmanuele III).—Situated between Mzran and Suk el Htab streets. Area 10,000 square metres. It comprises 7 masonry buildings and 8 sheds, Döcker type. Two of the former existed before the occupation in a very insanitary state. The new buildings include offices, disinfecting chambers, mortuary and post-mortem room, destructor, library, residence for staff and nurses, laboratories, store-rooms, &c., and 150 beds, which are found sufficient for the present needs of the city. Electric light throughout. Two operating theatres.

Chemical and bacteriological laboratory.—Situated on the coast-road running E. to Tajura. It is supplied with water, gas, and electric light, and is fully equipped.

Quarantine station.—A large new building facing the harbour, intended especially for supervising the health of pilgrims. It comprises quarantine and isolation wards for pilgrims, laboratories, post-mortem and disinfection chambers, a steam-laundry, rubbish-destructor, mortuaries (separate for different religions), quarantine stables for animals, and quarters for the staff. It is supplied with water, electric light and telephone, drainage and all necessary plant.

Military Hospital.—Taken over from the Turks and improved. It has been enlarged so as to accommodate 1,000 patients. It is fitted with bacteriological and histological

laboratories, an X-ray plant and an installation for electrical treatment.

Powder magazines.—A magazine has been constructed at Hamura. It consists of four masonry sheds separated by earth dikes and surrounded by a wall. It is provided with a fire-engine, a Décauville light railway, and a military guard. A dépôt for high explosives, consisting of three wooden sheds surrounded by a wire entanglement, has been made at Henni.

Cavalry and artillery barracks.—A group of Turkish buildings in the suburb $1\frac{1}{4}$ mile SSE. of the *Kasr*. They have been reorganized and in part rebuilt by the Italians.

Infantry barracks.—Besides the Ghargaresh barracks (q. v.), there is a new building at Bu Setta to accommodate 650 men, viz. a battalion and machine-gun section. Water-supply, well and wind-pump. The chief building is two storeys high in reinforced concrete.

Other buildings.—The custom house has been improved and enlarged. There are two storeys; quarters for staff, secretarial offices, &c., are on the first floor. The courts of justice are temporarily housed in the old Italian consulate, now vacated by the secretariat general, which has moved into a new building close to the *Kasr*. The public works department has two offices, one (the chief) in Suk el Hodra, the other near Spanish Fort. There is a new post office under construction in Shara Riccardo, next to the technical school.

Fortifications.—To protect the oasis and town against possible raids a wall has been built enclosing the whole oasis. It is 13 ft. high and $6\frac{7}{8}$ miles long. It starts from the sea SW. of Tripoli beyond the new barracks and rejoins the sea close to Bu Setta, east of Fort Hamidie. It is pierced by 10 gateways with iron gates, and provided with guard-houses.

Harbour works.—The work of improving the harbour and converting it into a large commercial port was begun as soon as the Italians had occupied Tripoli. The plan of improvements was as follows: (a) a mole, which is to be 1,890 yards long, running ENE. from the Spanish Fort along the line of rocks which extends seaward in that direction. 1,310 yds.

along this mole a branch will diverge SE. to protect the harbour mouth against northerly and north-easterly winds. (b) A secondary mole running NW. from the tombs of the Karamanli; the harbour mouth, between the ends of these two moles, being about 220 yards across. (c) A series of wharves and jetties fitted with cranes, warehouses, sidings, &c. (d) Three or four dry docks near the mouth of the harbour. (e) Dredging the harbour to a depth fitting it as far as possible for use by large vessels.

The first part of the works, begun early in 1912 and finished within two years, included : (a) 800 yards of the large mole, with a temporary branch 240 yards long running SE. from near its extremity ; (b) a wharf, immediately south of the Spanish Fort, 350 yards long and having a depth alongside of 23 ft. ; (c) a certain amount of dredging at the harbour mouth and facing the wharf. The entire mole is now complete.

The plant for the construction of these works included an overhead travelling crane, a powerful crane (to lift 30 tons) for handling the concrete blocks of the breakwater, and a railway $4\frac{1}{2}$ miles long (gauge 3 ft. $1\frac{1}{2}$ in.) to the Ghargaresh quarries.

(a) The mole consists on its seaward side of loose concrete blocks, measuring for the most part 12.95 by 6.4 by 6.2 ft. and weighing about 30 tons. The inner or landward side is a solid stone structure.

(b) The wharf stands 5 ft. 5 in. above the normal sea-level. It is a stone superstructure resting on four courses of concrete blocks ; and is fully equipped with ladders, bollards, rings, &c.

(c) The dredging completed by 1914 included the removal of several large sandbanks near the harbour mouth, and the clearing of a considerable section in front of the wharf to a depth of 25 ft. This makes the wharf accessible for mail and cargo steamers of medium tonnage.

The second series of operations was begun before the war, in the spring of 1914. It includes : (a) a further section (580 yards) of the mole. This will complete the main portion of the mole, leaving the two branches (to SE. and NNE.)

above mentioned to be built ; (b) continuation and completion of the first section of wharf, and construction of another section between the custom house and the castle, facing NE. and 739 yards long. The two together will be 1,323 yards long and will have a uniform depth alongside of 25 ft. They will be sufficient to carry on an annual traffic of 500,000 tons ; (c) dredging operations will be continued, especially in the parts of the harbour facing the new quays. The material dredged up is used for filling in behind the stonework of the quays. This second division was to have been finished in the middle of the year 1915.

When the whole plan is executed there will be berths for vessels drawing 30 to 33 ft., i.e. for large liners and ships of war.

Water-supply. — Previous to the Italian occupation the town was supplied with water from the well of Bu Meliana. There was a steam-pump (reciprocating type) which supplied water to a reservoir holding 660,000 gallons ; from this reservoir it went to the town by a channel which was badly constructed and unsafe from a sanitary point of view. It supplied four fountains in the city. These, however, were not much used ; the population depended for its water-supply chiefly on insanitary wells in the town.

The Italian improvements consisted in : (a) reconstructing the Bu Meliana supply ; (b) building a reinforced concrete reservoir at Dahra with supply-pipes to all parts of the town ; (c) installing filter-beds at Hamidie fort and an aqueduct thence to the town.

(a) The steam-pump at Bu Meliana was supplemented by a centrifugal pump driven by an Otto oil-engine. To ensure the purity of the water, the well was surrounded by a wall 8 ft. high enclosing an area of 60,400 square ft. The reservoir was strengthened and plastered. The system of distribution was entirely reconstructed. The new main, on reaching the town, sends off a branch to the reservoir at Dahra ; the other branch proceeds along Shara Suk el Htab into the town, crosses the bread-market, passes the walls of the castle, and

reaches the Quarantine Station. The water is said to be perfectly safe, but it is periodically examined by the sanitary authorities. The daily supply from this source is 98,000 gallons, which is insufficient for the needs of the population.

(b) The new reservoir at Dahra holds 460,000 gallons. It is divided into four tanks, each holding 115,000 gallons. The whole is made of reinforced concrete. The bottom of the tanks is 33 feet above sea-level. The water, coming from Bu Meliana and Hamidie, is raised into the tanks by a petrol-motor and pump.

The system of distribution consists of a network of pipes in the streets supplying water to street-fountains.

(c) Various wells with a good supply of fresh water existed near Fort Hamidie. Large filter-beds were constructed here, and a centrifugal pump delivering $5\frac{1}{2}$ gallons per second was installed, driven by a 15 h.p. electric motor. This is to be replaced by two 50 h.p. Diesel type oil-engines, each driving two triple reciprocating pumps, which will raise 430,000 gallons a day, that being the total quantity of water available at Hamidie. The water appears to be perfectly good. It is usually mixed with the Bu Meliana supply in the reservoir at Dahra, but can be turned direct into the town. The combined supply available is 550,000 gallons, equivalent to 7 gallons per head of the population.

To meet the needs of a future larger population another filter-bed is to be constructed at Hamidie. There will still remain a large untapped supply at Ain Jebana.

Drainage.—The old city was provided with sewers, but these were insufficient alike in number, size and fall, and liable therefore to overflow, destruction, &c. The new part of the town was only drained by cesspools. At the beginning of the occupation the mouths of the existing sewers were covered in and carried out to sea ; a proper system of drainage was then undertaken, which is probably now under construction. There will be two main sewers, both running NW. and discharging outside the harbour. The western main will

run from the square of the (projected) workmen's quarter ; the eastern from the fountain near the castle along Shara el Handik past the custom house.

Improvement of streets.—This is being carried out in sections. The streets required new foundations and an improved surface, as they soon went to pieces under the military traffic of the early occupation. A good deal of reconstruction was done incidentally to the installation of water-supply and the provisional work on the drainage system. Most of the chief streets both in the walled town and the suburbs have now been put in a state of repair.

Provision against fire.—The military forces stationed in and near the town are supplied with fire-engines ; this is, however, insufficient to meet the need. It has been decided to install hydrants at various points in the city, to be fed (in order to avoid waste of drinking-water) by sea-water. The scheme includes a pumping-station near the castle, with two double centrifugal pumps, each driven by a 25 h.p. electric motor, and raising together 12 gallons per second to a height of 110 ft. above sea-level ; two reinforced concrete reservoirs, each holding 8,825 cubic ft., one near the lighthouse and the other at Great Dahra ; and a system of hydrants which will be used for fires and for flushing the sewers.

Roads.—Motor roads open early in 1914 to Ain Zara, Zanzur, Tajura and Khoms, Azizia, and thence to Tarhuna, Gharian and Nalut, and Josh.

Railways.—To Zanzur, Azizia, Ain Zara, and Tajura. See chap. x.

Telegraph.—A considerable network of lines now radiates from Tripoli. See chap. x. There is a powerful wireless station, and telephones throughout the town.

Machine shops.—Motor repairs can be effected at the postal garage. A large foundry with machine shops, &c., has been erected by a private Italian firm (Messrs. Gandolfi).

Tajura

A village $12\frac{1}{2}$ miles E. of Tripoli. There is a very fine mosque and a well-endowed *zawia*. The oasis (about 4,000 acres) is very fertile, and is being developed by irrigation. Water is good and abundant.

A Residency has been constructed out of some old buildings. The buildings are for the most part one storey high ; one block near the centre has two storeys. The whole is surrounded by a wall about 10 ft. high, with loopholes at intervals of about 5 ft. at a height (externally) of 8-9 ft. from the ground. The buildings include quarters for troops.

Railway from Tripoli, to be extended to Khoms. Motor road Tripoli-Khoms.

Sidi ben Nur

A *marabut* about 20 miles to the east of Tajura, situated on dunes 1,600 ft. above the sea. There is a very good water-supply.

An infantry barrack has been constructed to serve as a station for a detachment of Royal Carabineers.

There is a signal station in visual communication with Tajura.

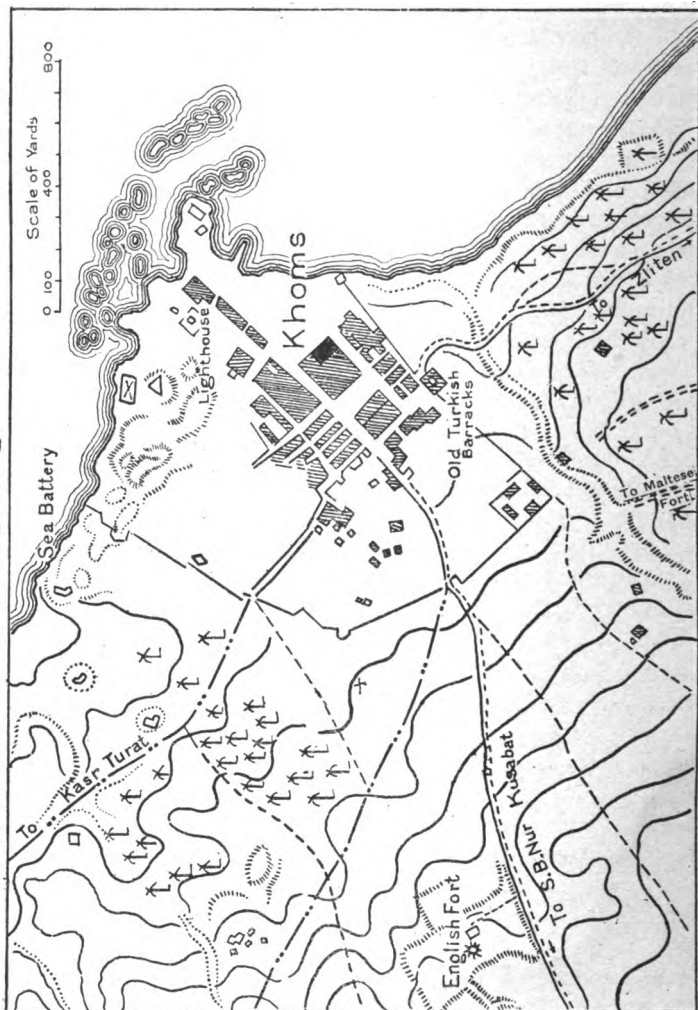
Khoms

Khoms is situated on the coast about 60 miles E. of Tripoli. It is for the most part a quite modern town. It lies in an oasis richly overgrown with palm-trees ; its chief commercial activity is the export of esparto grass. Barley is cultivated on a large scale, yielding between fifteen- and forty-fold, and was formerly exported to England.

It is now provided with a wooden pier 100 yards long having a T-head. A double railway line runs the whole length of the pier. There are two cranes : the larger, to lift 5 tons, can be driven by hand or steam ; the smaller, to lift 2 tons, is worked by hand. The depth of water at the pier-head is 12 ft.

The harbour has also been improved with a view to its

Khoms



utilization by sailing-vessels, fishing-boats, and small craft generally. A mole 190 yards in length was constructed of concrete blocks; the harbour protected by this mole was deepened from $4\frac{1}{2}$ to $6\frac{1}{2}$ ft., and a channel 13 ft. deep was dredged, leading up to the pier-head.

Water-supply.—There are a few wells near the shore; one of these (known as the custom house well) is fitted with pump and filter. The quantity of water so supplied is insufficient, especially in summer months, even for the existing town; and the wells, being situated below the level of the town cesspools, are insanitary. The Italians have therefore undertaken to bring water from a point in the Wadi Lebda, a little above the remains of a Roman barrage. The water is 7 ft. below the surface; it will be filtered and raised to a reservoir high enough to distribute it to all parts of the town. The plans were practically complete in the spring of 1914.

Drainage and sanitation.—A system of drains has been planned. They will be flushed by fresh water if the supply proves sufficient; otherwise by salt water pumped from the sea, as at Tripoli. Plans were made at the same time for surface-drains to remove stagnant rain-water.

The present population is about 3,000. The government building and other projects are based on the expectation that this number will be doubled in the near future.

Public buildings.—The custom house, post office, and harbour offices have been installed in old buildings. New buildings, for the most part of wood, have been constructed for the public works department, schools, fish-market, slaughter-house, &c.

Military works.—A wall, on the same principle as that of Tripoli, has been built round the town and suburbs. It is 13 ft. high, and in all 1.55 miles long. It has 6 gates and various guard-houses.

A new military hospital has been built, with separate wards for medical, surgical, and infectious cases, also store-rooms, laboratories, disinfecting plant, quarters for staff and offices.

The new buildings of the military engineering service include offices, stores for telegraphic apparatus, laboratories and workshops, and coach-houses.

Wooden barracks with double walls, wooden floors, and galvanized iron roofs have been constructed to accommodate 8,000 men. They cover a surface of 193,500 square ft.

A military pigeon loft for 350 pigeons, with quarters for superintendent.

A refrigerator, with plant capable of turning out 110 lb. of ice per hour.

Communications.—Wireless; telegraph to Gharian and Misurata; motor road to Tripoli; post office.

Zliten

Zliten village, an important centre with 4,500 inhabitants, is half a mile from the sea, and west of the harbour. It lies in a large and fertile oasis. The village has been fortified by the Italians.

The harbour is sanctioned as a commercial port, but it only consists of a small cove, unsafe except with the wind off-shore. There is a small and partly submerged jetty. No improvements had been carried out by 1915.

The water-supply is from fresh and copious springs. These have been improved and the water laid on to the town and forts. In the surrounding oasis the water is brackish.

Wireless station; telegraph Khoms-Misurata; post office; Residency; garrison; detachment of Royal Carabineers.

Motor roads, see chap. x.

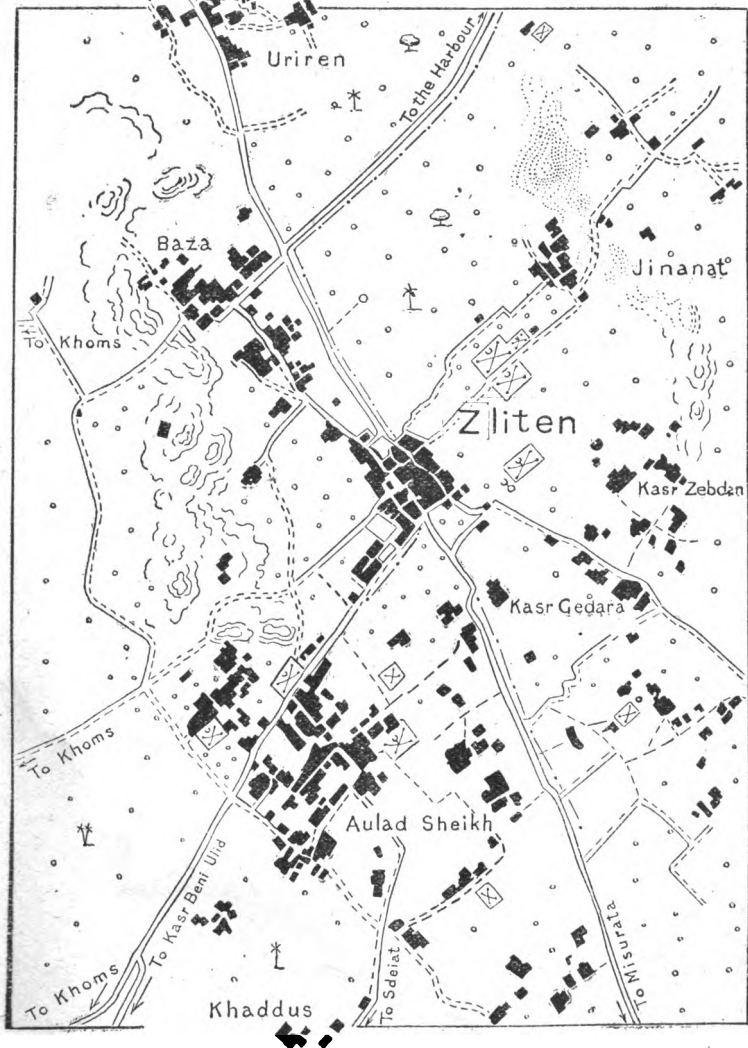
Misurata

Misurata Port is a new town constructed upon a site unoccupied before the Italian conquest. The chief buildings have concrete floors, steel and 'Eternite' framework, and double wooden walls; they are all provided with verandas and have in some cases (e. g. Custom House and harbour-master's

Zliten

Scale of Yards (Approx)

0 100 400 800



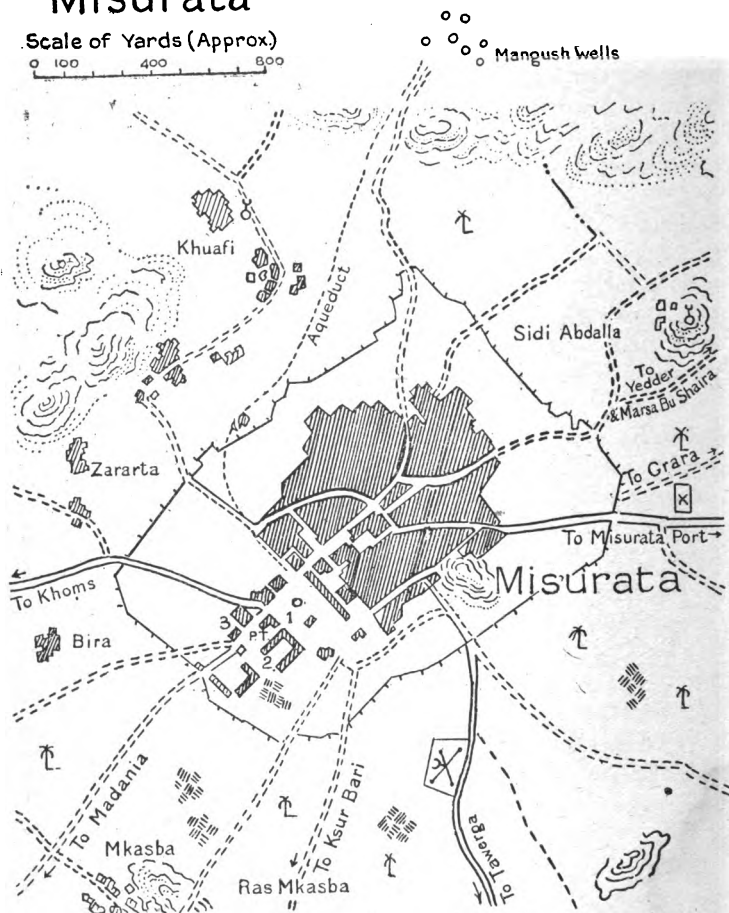
LIBYA

K

Misurata

Scale of Yards (Approx.)

0 100 400 800



- 1 Piazza Vittorio Emanuele
- 2 Post & Telegraph
- 3 Royal Carabineers

house) two storeys. Beside those mentioned, the chief buildings are the quarters for the officers of the garrison, the office of embarkation, military hospital, quarters of the Guardia di Finanza, postal and telegraph office, quarter for four companies of infantry, various storehouses, &c.

There are four piers, two of which are furnished with cranes and narrow-gauge railways and a lighthouse. The whole is surrounded by a defensive wall.

Misurata is a rapidly growing port, which has already a larger trade than Khoms. It will probably establish itself permanently as the second port in Tripoli.

Misurata Town is $7\frac{1}{2}$ miles W. of the port. It is a town of some size (9,000 inhabitants) and the capital of a province. Misurata is best known for the carpets of which it exports considerable numbers. It also exports grain, oil, and dates. The following buildings have been constructed since the Italian occupation :

A number (30) of masonry huts, each capable of accommodating a platoon of infantry.

A military bakehouse near the town square. It is a masonry building with four ovens.

The wireless station, including quarters for the staff.

Military hospital, consisting of two main buildings and three smaller buildings for staff, offices, &c. It is designed for 100 beds.

Head-quarters of the Libyan Battalion, a two-storey masonry building containing offices, stores, and living-rooms.

Quarters of the military engineering service, a two-storey masonry building containing offices, stores, workshops, and living-rooms.

Barracks for *Zaptie*, a squadron of *Savari* (native horse), and a camel battery.

A number of smaller works projected in 1914, including an ice factory and a garage. Motor services, see chap. x.

The *waterworks* for Misurata town are situated at Mangush. There are four wells, which have been deepened and fitted with pumps ; the water is raised into a reservoir, from which it is transferred to the pipes by means of a force-pump driven

by a motor. An artesian well 272 feet deep has been sunk in the courtyard of the Military Engineering Service dépôt.

At Misurata Port there are wells fitted with pumps driven by internal combustion engines. The water is laid on to the various barracks and official buildings.

Sirte (Zafran)

A commercial port. Population 2,000–3,000. Its annual trade amounts to over £5,000. The chief imports are flour, oil, rice, and cotton. Live stock and barley are the only considerable exports. There is, however, no harbour for large vessels, the harbour being much silted up and only suitable for small boats. There is an old mole, breached in several places, and the ruins of a large ancient town. There is also a high wooden observatory and a wireless station in regular communication with Misurata and Sokna. There is a telegraph station, a post office, and a lighthouse. The Arab village is about $2\frac{1}{2}$ miles west of the harbour. Motor services, see chap. x. Good and abundant water.

2. INLAND TOWNS OF TRIPOLI

Nalut

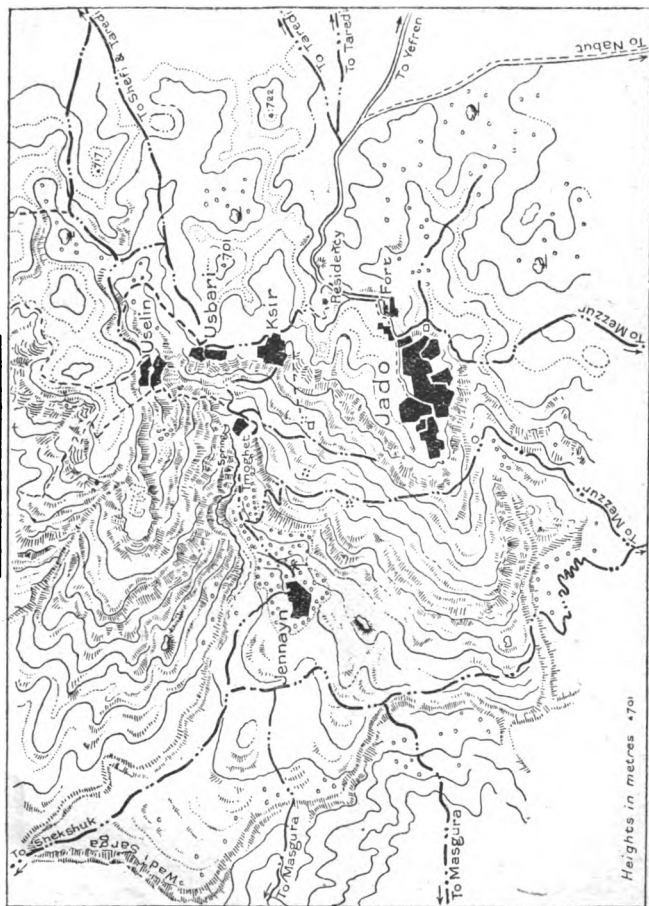
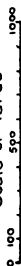
A Berber village (population 1,500) 1,970 ft. above the sea on the edge of the plateau. The water-supply is good and abundant. The population is agricultural, and the only industries are the weaving of carpets and *barrakans* of wool and camels' hair. Butter and oil are exported. Caravans reach Tripoli via Josh and Zawia in 8 days, and Tatawin (Tunisia) in 3.

The old *kasr* has been fitted up to accommodate a company of infantry and Royal Carabineers. A wireless station, connecting Tripoli with Ghadames, has been installed. The water-supply has been regulated, and a wind-pump installed.

Motor road and telegraph line to Tripoli via Gharian.

Jado

Scale of Yards



Jado (Fessato)

A group of hamlets (population 1,200) in a fertile country rich in olives. Head-quarters of a district; Residency, garrison, and detachment of Royal Carabineers.

The *kasr* has been enlarged for military purposes. The water-supply has been improved and a wind-pump installed.

Wireless station; motor road and telegraph to Gharian-Nalut.

Josh

A village in the plain at the foot of the Jebel below Jado, with which it is in telegraphic communication. It has a postal service from Tripoli and Nalut, and about 300 inhabitants. There are a Resident, Vice-Resident, and interpreter, and a small garrison. The village is divided into two parts, Seghir and Kebir, in addition to the *kasr*. There are several very good springs, of which the best is between the *kasr* and Seghir.

Josh is a centre of caravan-routes and is acquiring a certain commercial importance. It is the natural centre of the Siaan and Nawayil country. The district is pastoral and its chief product is wool.

Zintan

A group of villages consisting of rock-cut dwellings; a Vice-Residency. Several springs; the best is Musalarin, 1½ mile away.

The small Turkish barrack has been fitted up to accommodate a detachment of Royal Carabineers, a platoon of infantry, and commissariat service to correspond.

There are telegraph lines to Yefren and Kasr el Hajj. Motor road Gharian-Nalut.

Yefren

A *kasr* surrounded by villages ; head-quarters of the whole Jebel district, with Residency, garrison, and Royal Carabineers.

The former Turkish barrack has been improved to accommodate a company of infantry, with quarters for officers. An artillery barrack has been constructed, and a water-supply has been installed. At Kasr Yefren itself are only these buildings ; in the neighbourhood is a group of several villages, of which the nearest are Dahra (200 inhabitants ; sometimes called Yefren) and Tagherbost (600 inhabitants).

The water-supply is from springs, for which a reservoir has been built, and from wells, which have been deepened and fitted with pumps. A conduit four miles long is in course of construction, to bring water from the Rumia springs.

Postal service from Tripoli by the Gharian motor road ; telegraph and wireless.

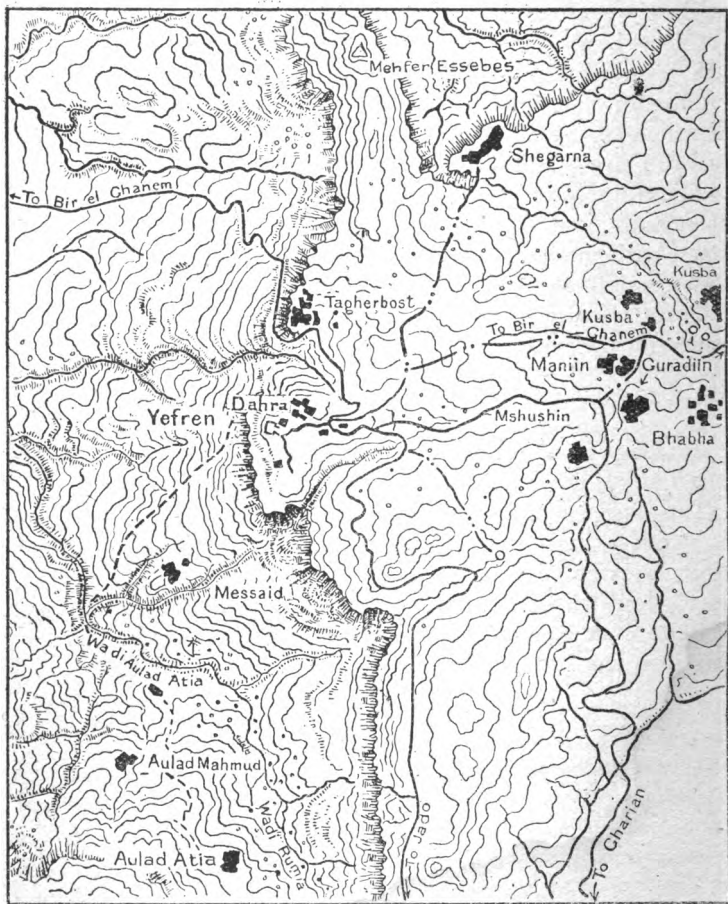
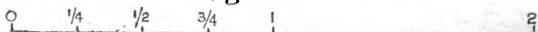
Mizda

A village of about 600 inhabitants on the plateau south of Gharian. It lies in a fertile oasis (gardens, palms, barley, &c.).

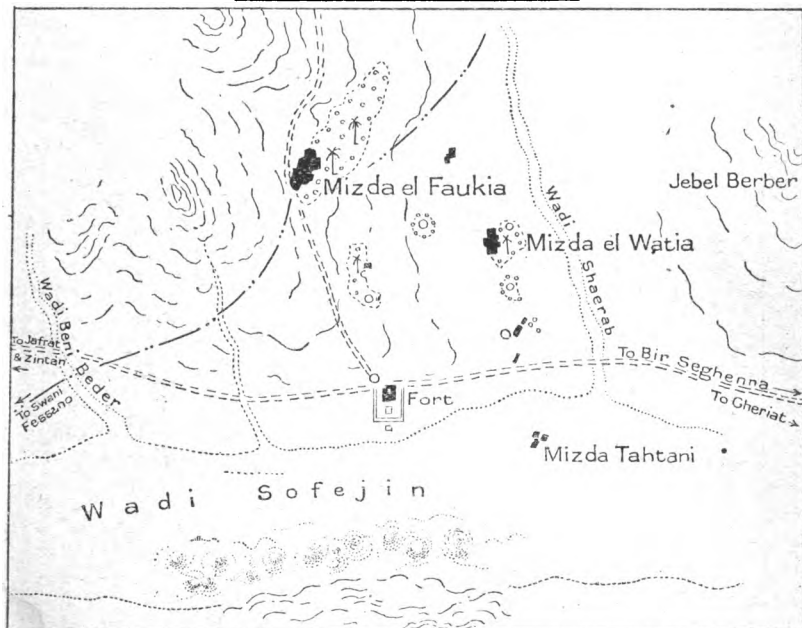
The *kasr* has been improved and raised another storey. A wireless station and water-supply have been installed. Motor service to Gharian. There are about twenty wells ; only a few drinkable ; and a Senussi *zawia*. The village (on the site of a Roman town) is divided into upper and lower quarters, the *kasr* standing apart. See further, p. 405.

Yefren & neighbourhood

English Miles



Sketch of Mizda

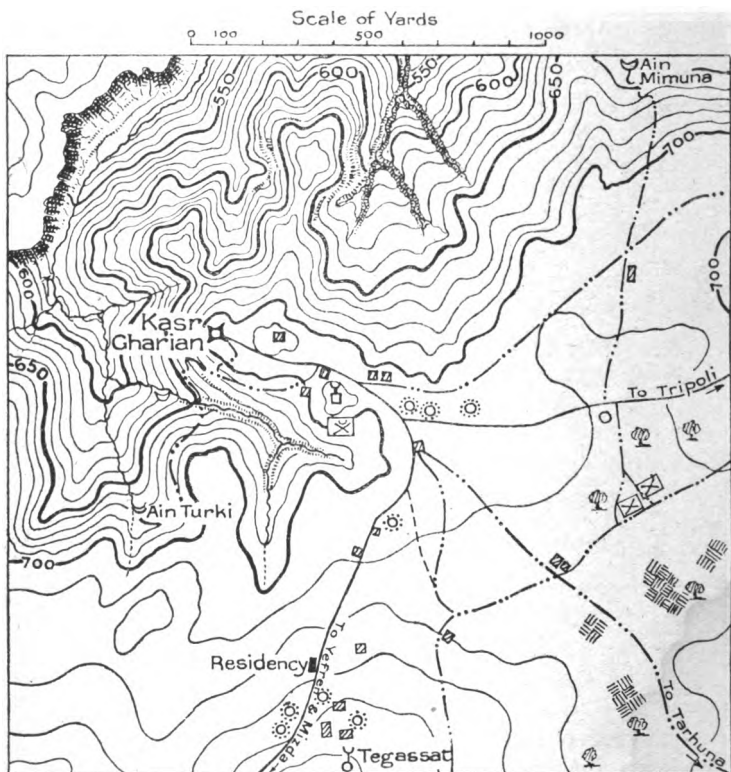
Scale of Yards (Approx.)
0 100 500 1000**Gharian**

The native village is entirely composed, except for the mosque, government buildings, and a few houses, of underground dwellings. The surrounding district is extremely fertile and abounds in figs, olives, and barley.

Detachments of Royal Carabineers and *Zaptie* are quartered here. There is a new barrack for a company of infantry, and inside the *kasr* a new Residency has been built.

The water-supply is from springs, 5-10 minutes E. of the *kasr*. Three reservoirs and a system of distribution have been constructed.

Kasr Gharian



☼ *Underground dwellings*

Contours at intervals of 10 metres

Motor roads and telegraph lines to Tripoli, Nalut, and Tarhuna ; post office and wireless. Railway to Tripoli.

Azizia

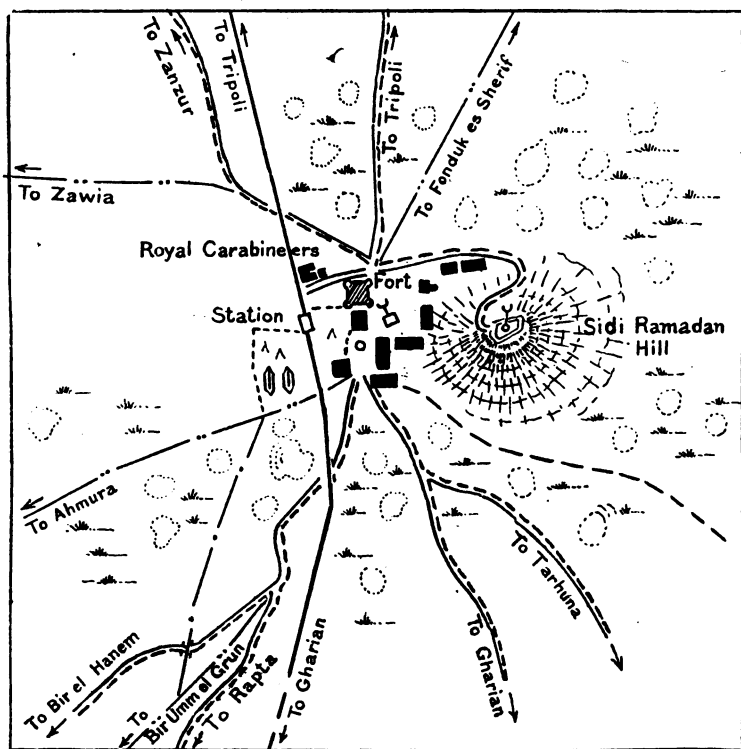
Thirty miles SSW. by rail from Tripoli. It lies in an agricultural district, and is the most important centre of trade-

Azizia

(Khedwa)

Scale of Yards

0 100 500 1000



routes between Tripoli and Gharian. There are quarries of good building-stone in the neighbourhood. Residency, garrison, and Royal Carabineers.

There is a *kasr*, in which the Italians have installed postal and telegraph offices, Residency, quarters for officers commanding the garrison, and other official residences.

The barracks consist of two buildings, standing on the slopes of the hill above (E. of) the town. The larger building is the barrack proper, the other containing kitchen, guard-room, &c. On the summit of the hill is the *marabut* of Sidi Ramadan.

A dépôt of mules was organized here for purposes of military caravan traffic, while the rail-head was at Azizia. There is accommodation for 400 mules and a veterinary hospital for 30 animals.

Motor roads to Tripoli, Gharian, Tarhuna, and Josh.

Water-supply.—Three wind-pumps have been installed, in the *kasr*, at the north-eastern well, and at the natives' well respectively.

Bu Gheilan

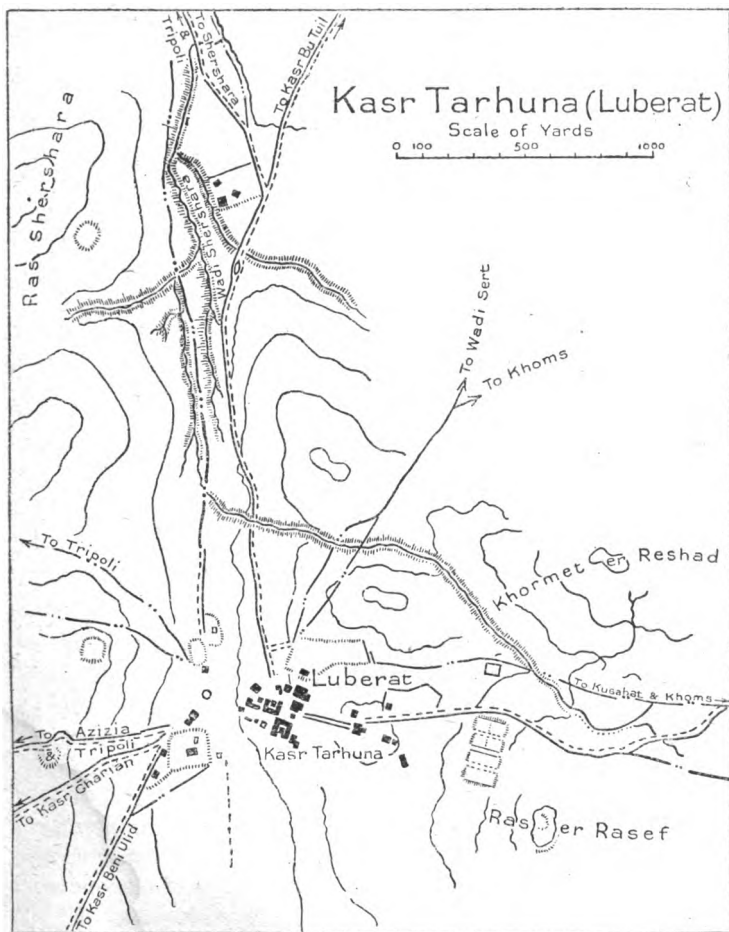
A military station at the edge of the coastal plain, 10 miles NNE. of Gharian. Detachments of *Zaptie* and Royal Carabineers. There is a barrack for a company of infantry, and a dépôt for mule-caravans.

Bu Gheilan lies on the main motor road from Tripoli to Gharian. There is good water-supply from springs. A reservoir has been constructed, from which the water is distributed to the military and native quarters.

Tarhuna

A small town (properly called Luberat; *Kasr Tarhuna* being strictly the name of the *kasr* only); the head-quarters of a district whose population is almost entirely nomadic; population 800. Residency, garrison, and Royal Carabineers. There are 14 good wells and a very good spring, Ain Sher-shara, 1½ mile to N. Tarhuna is the centre of a considerable caravan trade.

The former Turkish barrack has been enlarged by the addition of new buildings. The *kasr* has been adapted to serve as Residency and *Beladie*. A water-supply has been installed.



Wireless station; telegraph lines to Azizia, Gharian, Khoms, and Kasr Beni Ulid; motor roads to Tripoli and Azizia.

Kasr Jefara

A considerable village (population 3,500; also called Karabuli) 50 miles SE. of Tripoli, lying in a fertile plain. The market is likely to become important.

A large group of buildings, begun by the Turks and finished by the Italians, serves as Vice-Residency, barracks for a detachment of Royal Carabineers, &c. Telegraph and postal services to Tripoli and Khoms, and one well of poor water. Europeans prefer to use the wells of Zaafrania ($1\frac{1}{2}$ mile NW.) or Farhuna (1 mile E.).

Suk el Juma

A village of about 1,000 inhabitants; 2 hours from Zliten.

The Residency has been enlarged and improved. It is a defensible enclosure with loopholed walls, and is supplied with water from a new well. There is a detachment of Royal Carabineers.

Kusabat

An important commercial centre; population 3,500, largely Jewish. It is in postal and telegraphic communication with Tripoli, Khoms, Jefara, and Tarhuna, and a centre of caravan-routes. Water-supply poor. Market every Friday. Weekly caravans to Tripoli and Misurata. Residency, garrison, and Royal Carabineers.

Kusabat is the centre of Msellata, a district apparently capable of agricultural development. It already exports oil and barley. The chief industry is the weaving of *barrakans*.

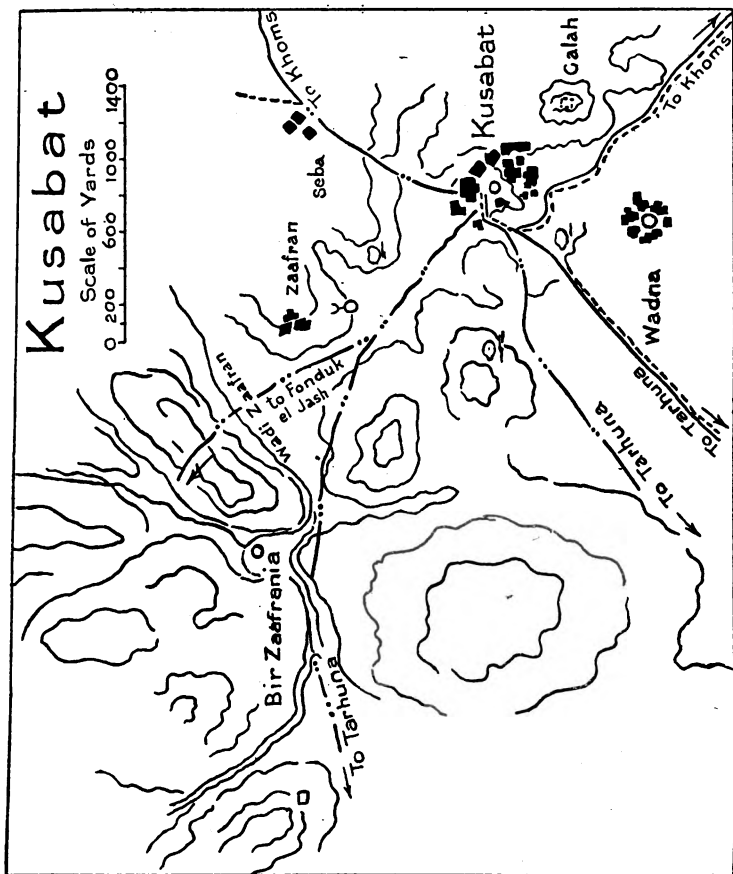
Kasr Beni Ulid

Head-quarters of the large Orfella district. Good and abundant water is obtained from wells in the Wadi Beni Ulid. There is a Residency, a telegraph line to Tarhuna, and another projected to Misurata, and a wireless station com-

Kusabat

Scale of Yards

0 200 600 1000 1400



municating with Tripoli, Mizda, Misurata, Sirte, and Bu Njem. Carriage roads to Misurata, Bu Njem, Tarhuna; caravan road also to Zliten. Postal motors from Misurata. Market of some importance twice a week. Post of Royal Carabineers and garrison.

An oasis composed largely of olive-gardens occupied the bottom of the Wadi Beni Ulid for about $12\frac{1}{2}$ miles; connected with this are numerous villages of which the *kasr* is the chief.

Tawerga

An oasis about 6 by $2\frac{1}{2}$ miles in extent, on the western margin of the great *sebkha* of the same name. It is elaborately irrigated from an abundant spring in the adjacent Wadi Ghezwan; the water is brackish and causes swamps here and there, which make the district very malarial. Throughout the oasis palm-groves alternate with beds of rushes used for weaving mats, which are largely exported. The oasis contains a population of 4,000–5,000, living in scattered hamlets.

The Italian post of Tawerga lies $\frac{3}{4}$ mile N. of the oasis. It consists of a few *fonduks* and a station of Royal Carabineers. It is the capital of a sub-district (*mudiria*), whose whole population lives in the immediate neighbourhood.

Bu Njem

A small village of the Orfella tribe; population 150. Its only importance lies in its position on the caravan-routes Tripoli–Murzuk, Tripoli–Sokna, &c. Wireless station in communication with Sirte, Sokna, Kasr Beni Ulid. Motor postal service, see chap. x.

The market is held only in the date-harvest season, when there is much traffic between the Syrtic region and Fezzan.

3. COAST TOWNS OF CYRENAICA

Benghazi

Benghazi is built on a long rocky promontory running SW. and about $1\frac{1}{2}$ mile across. This promontory divides the open sea from a series of lagoons (*sebkha*), of which the largest, the Great Sebkha, has no outlet to the sea. Sea and lagoons alike are shallow and broken by a number of sandy spits; there are many rocks in the sea.

Before the Italian occupation, Benghazi, the natural port of a large part of the Cyrenaican plateau and of the desert routes to Kufra and Wadai, was very stagnant. The harbour was only accessible for small boats; larger vessels, anchoring in the open sea, in a dangerous and exposed anchorage, were unable to take in or discharge cargo except in fair weather, so that Benghazi was cut off from all sea communication during the stormy season. The population, chiefly Arab, carried on agriculture in a primitive manner; even so the fertility of the soil ensured good average yields, and wheat and barley were exported with fair regularity to Europe. Provisions were very cheap and good; few European goods could be obtained, but native produce was easy to procure. Italian and Alexandrian steamers visited the town. The population was variously estimated at from 10,000 to 15,000. It is now 32,000. There was a small European quarter, with about 2,000 inhabitants (Maltese, Greeks, Italians), and a somewhat larger number of Jews. There are now 2,500 Europeans. The houses were solidly built of stone, with a square court in the middle, in which was a well of brackish water and long and narrow rooms opening on the court. The drinking-water was brought in from a distance. Arabic was the only language in general use.

The Turks built a railway, $1\frac{1}{2}$ mile long, to Berka, where they constructed a large block of barracks; they built a mole running SW. from the *kasr*, protecting part of the shallow harbour, and projected another running NW. and N. from

Juliana point. The Italians have carried out various important works, which are described below.

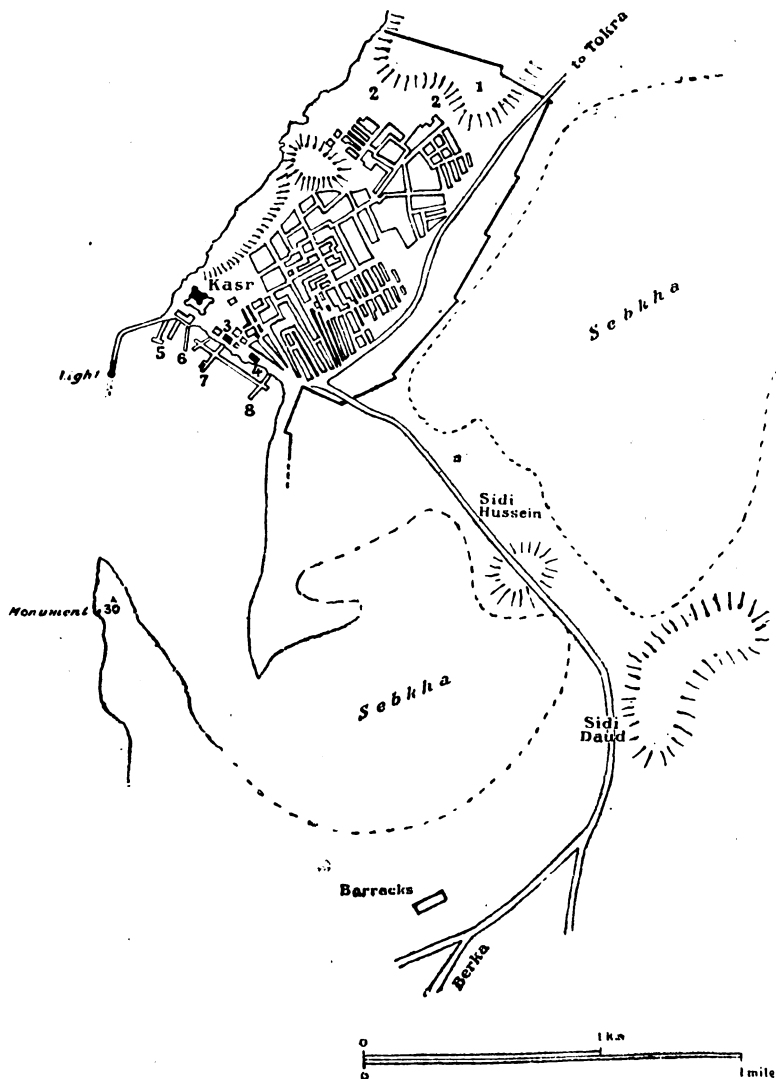
Harbour works : Civil piers.—Two new wooden piers have been built side by side running about SSW. from the custom-house at the base of the Turkish mole. The larger pier is intended for medium-sized vessels ; it is altogether (including the head) 82 yards long. The first section, 53 yards long, is 16 ft. wide ; the remainder up to the head (17 yards) is 23 ft. wide. It has a T-head, 33 ft. deep and 88 ft. long. It is supplied with three railway lines, respectively normal gauge, 3 ft. 1½ in. (colonial standard gauge), and 0·60 metre (Décauville). The first is used by a 5-ton steam- and hand-crane.

The smaller pier runs parallel to the larger and east of it, separated by about 20 yards of water. It is rather broader, but has no T-head, and is much lower, being intended for the use of small craft. It has no crane or railway.

There is also a small pier for passenger traffic, at the east side of the port, beyond the naval and military piers, and leading up to the harbour-master's office.

Naval and military piers.—The military pier runs about S. from the wharf at the south corner of the custom-house. It is about 320 ft. long. There is a crane on the wharf close to its end. A section of wharf 360 yards long runs SE. from the same point parallel to and 30–50 yards distant from the shore. It is supplied with railway lines and two hand-cranes. It is crossed at right angles near its central point by the naval pier, which is about 130 yards long and projects 70 yards beyond the wharf. This pier is furnished with a double railway line.

Dredging work.—In the original state of the harbour the piers were not accessible even for tugs and other small steam vessels. Dredging was begun simultaneously with the building of the piers, with the purpose of securing a depth of 10 feet alongside the piers and in the approaches to them. The basin protected by Point Juliana, on the other hand, can now be approached by small steamers and sailing vessels through a newly opened channel 120 yards long and 13 ft. deep. Further works are in progress.



BENGHAZI.—1. Site of Hospital; 2. Site of Barracks; 3. Governor's Palace; 4. Railway Station; 5. Civil Pier; 6. Military Pier; 7. Naval Pier; 8. Passenger Pier.

Future improvements of the harbour.—The harbour is now known to have a rock bottom at a general depth of 11 ft. This makes it impossible ever to utilize it except for small craft. In order to meet the commercial requirements of the port various schemes have been put forward; one of these would involve the construction of an entirely new harbour NW. of the town, enclosed between two moles starting respectively from Lighthouse Point (Tahun ta Ria) and the shallows off the *kasr*. This would give depths of 5 to 7 fathoms in the harbour. This project will, however, not be executed at once. For the immediate future it is proposed to prolong the Turkish mole by 100 yards and to excavate a berth 12 ft. deep behind it for a steamer-anchorage (done in 1916).

According to the latest information, the Italian engineers find the rock bottom of the old harbour softer than was at first supposed, and may attempt to excavate a basin in it.

Water-supply.—The supply from wells in the town is small and not good. Attempts to improve it by an artesian well near Ain Selmani and other means had already been made during the period of Turkish rule. The Italian engineers have searched the country for water within a radius of 7 or 8 miles. Springs exist at Lake Zeiana, Lake Gheder, and El Hammara. There are also springs, e. g. at Ommoliadek, Bukarmo, and Jok, which flow underground into limestone caves. This latter type gives water bacteriologically good and comparatively free from organic matter. It can be tapped by means of wells, of which the most satisfactory are those of Fweihat. The water in these wells is salt, but not sufficiently so to affect the taste noticeably. It is therefore proposed to install six electrically driven pumps supplying water to a reservoir 53 ft. above the ground which has been already built. From this reservoir the water runs through a pipe of 5½ in. diameter to two reservoirs raised 35 ft. above the ground on Juliana Point. It is distributed from these cisterns to the barracks, military hospital, &c. The Fweihat reservoir was temporarily supplied, pending the installation of machinery, from a tank on

wheels, fitted with pumps and a canvas pipe, which was moved about from one well to another. The wells are expected to yield 43,600 gallons daily, i.e. about $4\frac{1}{2}$ gallons per head of the population. Three filter beds were complete and two under construction in August 1916, and the water was shortly to be laid on to public fountains in the town.

Drainage.—No works have yet been planned, and it seems likely that no satisfactory solution can be proposed, the town being almost entirely surrounded by salt lakes and by the present and future harbours. A system of cesspools will probably be adopted. The higher parts of the city to the north-east will be drained by sewers running north into the sea.

Projected civil buildings.—These include post and telegraph office, governor's residence, schools, quarantine station, and prison.

Military buildings. Head-quarters of the commissariat service.—A group of buildings including a house (3 storeys) serving as head-quarters, offices, and officers' quarters; a barrack (2 storeys) for men, one company, and sheds containing stores of provisions and clothing, carpenters' shops and smithies. All buildings are of stone, with flat reinforced concrete roofs.

Military hospital (information dates from April 1914, when many of the buildings were incomplete).—Situating at the NE. corner of the town, close to the wall, in an enclosure measuring nearly 26,000 square yards, surrounded by a wall. The enclosure is divided into two sections, of which one ($\frac{1}{4}$ of the whole) is reserved for infectious diseases. The larger (non-infectious) portion includes a two-storey stone building containing 60 beds, two portable Döcker sheds of 20 beds each, and 14 portable Schaft sheds of 12 beds each. There are also (a) a stone building containing operating-theatre and accessory rooms, X-ray room, dark room, &c., heated by water-pipes. (b) A two-storey stone building containing baths for the troops, and common-rooms and quarters for the hospital staff. (c) A large central building (two storeys) containing rooms for the general

service of the hospital, drug-store, laboratory, bacteriological laboratory, offices, and 10 sick-rooms for the use of the hospital staff.

The portion reserved for infectious cases contains 5 Schaft portable sheds to hold 12 beds each. The hospital is thus designed for 328 beds.

Between the infectious and the non-infectious part is a series of buildings opening on each part, as follows : (a) A two-storey building containing kitchens and stores, and quarters for nurses above. (b) A chapel with sacristy, mortuary, and post-mortem room. (c) A small building containing disinfecting apparatus and a Hartmann filter for rendering the Fweihat water fit for drinking. (d) Laundry. (e) A dormitory (20 beds) for the orderlies attached to the infectious section, with baths and linen-rooms.

All the permanent buildings are of stone, with flat roofs and concrete floors.

'General Torelli' barracks.—A group of 6 buildings, designed to accommodate 800 men, i.e. two battalions on peace footing. It includes an infirmary (20 beds) and stables for 100 horses, besides baths, drinking-water laid on all over the buildings, &c. It is built of stone and I-section steel girders, has a flat roof, and is two storeys high. It includes a large courtyard.

Engineers' barracks.—A group of 4 stone buildings with flat roofs on I-section girders. One building forms the barrack proper, and accommodates a company of sappers (150 men). This building is two storeys high. The remainder are one storey high, and include workshops, stables for 40 animals, and a coachhouse. There is a courtyard almost equal in area to the buildings.

Head-quarters of engineering service and military tribunal.—A large two-storey building in stone. The ground plan is square, with a small courtyard. It is supplied with light and water, latrines, &c. On the ground floor are two large stores of material for the engineering service, the offices of the garrison head-quarters, and the officers' mess of the Engineers; on the first floor are the offices of the Engineers' head-quarters,

and those of the military tribunal, including a large courtroom.

Artillery head-quarters and workshops.—These are contained in two large enclosures, each 328 by 131 feet, situated on one of the principal streets of the industrial quarter. In the NW. enclosure is a two-storey house containing the offices of the Artillery head-quarters. There are also large sheds for storing materials and workshops for smiths and saddlers. In the SE. enclosure is a two-storey barrack for 100 men, and sheds containing workshops for tinsmiths, gunsmiths, carpenters and joiners, and mechanics ; also stores. The machines are driven by three Diesel engines, which also furnish electric light to all the military buildings. All the buildings are stone ; the sheds have flat roofs on H-section girders, the house and barrack gable roofs of 'Eternite' with wooden framework.

Infantry barracks at Sabri (N. end of town).—A series of large wooden buildings containing accommodation for 1,500 men, stables for 150 animals, offices, officers' quarters, messes and club-rooms for officers, N.C.O.'s, and men.

Cavalry barracks at Sabri (N. end of town).—Barracks for half a regiment of cavalry (300 men), with stables for 300 horses. They also include officers' quarters, kitchens, messes, stores, &c. All buildings are of wood except the lavatories, which are stone.

There are also barracks for a squadron of native horse (*Savari*). These consist of 70 sheds, each of which accommodates 2 *Askari* and their families. Stabling for 150 animals, officers' quarters, &c.

Fortifications : Wall.—The wall of Benghazi is 13 feet high and $2\frac{1}{3}$ miles long. It is loopholed along its whole length. At each angle and at each end is a bastion loopholed for 14 rifles, and at the extremities, at Juliana gate and the sea gate, are two casemates each containing a machine-gun and a searchlight. Beginning near Sidi Hussein, it runs between the town and the Great Sebkha, and then turning NW. reaches the sea.

Forts.—The following works were constructed by the Italians during the Turco-Italian war for the defence of Benghazi.

Juliana fort, a small work close to the *sebkha* at the base of Juliana Point.

Castellaccio fort, $3\frac{1}{2}$ miles south of the town.

Fweihaat redoubt, 4 miles SE. of the town, immediately beyond Fweihaat oasis.

Lweshi redoubt, 3 miles E. by S. from Benghazi.

Fort Artesian, 2 miles ENE. of the town, across the Great Sebkhah.

Palm-grove fort, a small work $\frac{1}{2}$ mile from the sea on the Tokra road, $3\frac{1}{2}$ miles from Benghazi NE.

Railway.—The following Décauville lines (0·60 metre gauge) radiate from Benghazi.

1. Sidi Hussein (Benghazi)—Benina, $15\frac{1}{2}$ miles.

2. Sidi Hussein—Berka barracks, 1·09 miles.

3. Sidi Hussein—Fort Artesian, 2 miles.

4. Sidi Hussein—Fweihaat wells, $1\frac{1}{4}$ miles.

At every station and halt there are sidings and a water-supply. 4 trains a day run to Benina, 2 to Berka, and 4 to Fweihaat.

Benghazi station has been planned on a scale to meet the needs of the future 0·95 metre gauge railways to Egypt. Among the buildings are a locomotive shed, a repairing shop, smithy, and carpenter's shop, and a shed containing a 12 h.p. engine for driving machines, besides quarters for the platoon of engineers responsible for the working of the line.

At Benina station are a locomotive shed, a goods shed, a workshop, a lamp-room, station-master's office, and quarters for staff.

Rolling-stock.—7 locomotives (25 h.p.), 8 tenders, 8 passenger coaches, 21 tank-trucks holding 3 cubic metres and 15 holding 1 cubic metre, 90 metal trucks, 153 wooden trucks, 120 flat cars, and 25 ballast-trucks.

For other (0·95 metre gauge) railways see chap. x.

Roads.—The following carriage-roads radiate from Benghazi:

1. Benghazi—Tokra, NW. along the coast; 37 miles.

2. Benghazi-Suluk, ESE.; 35 miles.

3. Benghazi-Mikili, E. Incomplete; the first 45 miles have been constructed.

There is a wireless station.

Tokra

A village of about 30 houses, with gardens and palm-trees; a few wells and a fine *zawia*. It lies on the sea-coast half-way between Benghazi and Tolmita, with which towns it is connected by passable roads along the coast. Another road runs inland over the hills to Merj.

Tokra occupies the site of an important ancient city whose ruins are still conspicuous. Its walls, in very massive ashlar, stand 6 feet high in places.

Tolmita

Tolmita (ancient Ptolemais) is the port of the Merj district. It is to be improved into a good harbour for small vessels, and has been already provided with lights and marks. The ruins of the ancient city are conspicuous and extensive. A considerable town has been built by the Italians; the buildings are mostly of wood.

There is a garrison consisting of a battalion of the 18th infantry regiment; a hospital, supplementary to that at Benghazi, and serving the Merj district; a *zawia*, and a small but growing trade with Italy.

Marsa Susa

Marsa Susa (ancient Apollonia) is the port of the rich district of Cyrene. It has been supplied with lights and marks and fitted for the use of tugs and small vessels. A mole is to be built which will provide a good and sheltered harbour for fishing-boats, sailing-vessels, and even steamers of medium tonnage.

The modern town lies close to the shore, west of the ancient Apollonia, between the ancient walls and the Arab village.

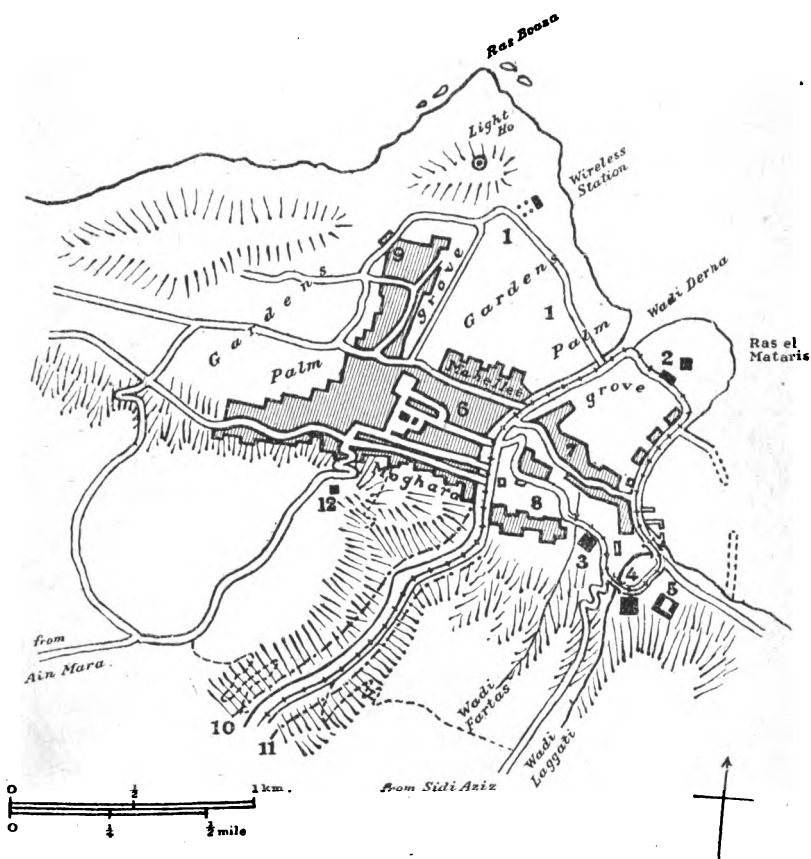
The latter consists of about 70 houses in two parallel streets. Immediately east of this village is a rock surmounted by a windmill ; the Italian town is growing up in the surrounding plain. The post-office lies north of the windmill, and to NE., close to the shore of the ancient harbour, is the hospital, a stone building. There is an hotel, a church, and other buildings. South of these is the military quarter. The Italian mail steamers call at Marsa Susa.

Derna

The town of Derna lies on the coast of Cyrenaica in lat. $32^{\circ} 45'$, long. $22^{\circ} 40'$. It is situated half a mile from the shore on the Wadi Derna, which rises in the Cyrenaican plateau and, issuing into the town from a deep ravine, flows into the sea near Ras el Mataris. The chief quarter of the town lies on the left bank of the wadi, and is called Medina ; it contains the chief public and private buildings, the bazar and the Great Mosque. North of Medina is a small group of old Arab houses called Jebel, situated on a hill ; and south-west of it lies the quarter of Moghara, on the lower slopes of the mountains. On the right bank of the wadi are two quarters, lower Bu Mansur and upper Bu Mansur. The roads to the harbour and eastward along the coast pass through lower Bu Mansur. There are a few buildings by the harbour, and the oasis surrounding the town, which is thickly overgrown with date-palms and figs, contains a few scattered huts.

The future Italian town is to be built close to the sea, in the flat ground NW. of the mouth of the wadi, as far as Lighthouse Hill. The maritime quarter will be on the other side of the river-mouth, near the mole.

The roadstead is much exposed to north and east winds, and consequently a mole is being constructed running at first ESE. and then SSE. from the Ras el Mataris shingle-point east of the mouth of the wadi. The first section, 131 yards long, is designed to serve for 76 yards of its length as a wharf. The second section is 196 yards long, and will be prolonged another 246 yards, thereby sheltering a large anchorage from



DERNA.—The scale is approximate only. 1. Site of European town; 2. Décauville Station and head-quarters of engineers; 3. Commissariat station (approximate site); 4. Barracks (approximate site); 5. Hospital; 6. Medina; 7. Lower Bu Mansur; 8. Upper Bu Mansur; 9. Jebel; 10. Turkish conduit; 11. Bu Mansur conduit; 12. American fort (ruins).

E. and NE. winds. A second mole, starting from the south side of the bay, will run northwards for 215 yards. This will also serve as a wharf. The seaward side of the moles will consist of loose concrete blocks.

The anchorage enclosed by these moles is being dredged to obtain minimum depths of 13 feet. The natural depth at the site of the future harbour-mouth is 30 feet, and about half the harbour is over 20 feet deep.

There is a new wooden pier 98 yards long by $5\frac{1}{2}$ yards wide. It is furnished with a railway and a 5-ton steam crane. The planking of the pier is 10 ft. above normal water-level, but there are platforms at a lower level alongside, reached by stairs, for the unloading and loading of small vessels by hand.

Alongside this pier, on the south-east, is a jetty for small boats. There appears to be another jetty between the pier and the mole. There are said to be four jetties in all.

Population.—According to a description in 1901 Derna had a population of 6,000, mostly Arabs and Sudanese ; some Turks and about 100 Jews, with a very few Christians, who were almost all Maltese. It had a *kaimmakam*, a tribunal, a superintendent of police, and a garrison of 600. The town contained 10 mosques and 6 *zawias* or Mohammedan monasteries and colleges ; it was then entirely unfortified.

Civil buildings.—In 1914 none had yet been constructed, but several projected, viz. post-office, custom-house, quarantine station, court-house, government offices, market, schools, and prison.

Military head-quarters.—A two-storey building, in the future European town, i.e. NW. of the mouth of the wadi, near the sea. It includes, besides the head-quarters offices of the military zone of Derna, offices for the engineering, commissariat, and pay departments, the military telephone exchange, the garrison officers' mess, and quarters for officials.

Quarters of O.C. the garrison.—A small two-storey house. Close to it are stables and quarters for orderlies.

Infantry barracks.—Two three-storey buildings on the lower slopes of the hills behind the town. They are designed to

accommodate two companies, organized as a battalion. A carriage-road has been constructed leading to the sea.

Military Pigeon loft.—Situated on the west of the town. It is of the regulation type and designed for 200 pigeons.

Military slaughter-house.—A masonry building in the oasis, in the neighbourhood of the harbour. Annexed are store-houses, offices, veterinary laboratory, disinfection plant, &c.

Military hospital.—During the Turco-Italian war temporary accommodation was found for four field-hospitals in the Turkish hospital, the schools, and the Franciscan convent, supplemented by a few portable buildings and various wooden sheds. These were situated a short distance north of the pier. A permanent military hospital is to be constructed on the site of the Turkish military hospital, close to the mouth of the Wadi Laggati.

Railway station and workshops.—Situated between the harbour and the right bank of the wadi. The buildings include a barrack for a railway company of engineers. Some of the workshops have machinery installed and worked by Drott heavy-oil engines. There are extensive sheds for storing railway and other material.

Railways.—Several Décauville lines (0.60 metre gauge) have been laid down, viz. up to the bed of the wadi as far as the barrage (see section on water-supply), along the shore, and in the principal roads of the oasis. These lines are used for the transport of materials, and especially of water.

Commissariat dépôt.—A group of four stone buildings in the Bu Mansur quarter, along the road from Wadi Derna past the Moslem cemetery to the Wadi Laggati bridge and the sea. The chief one is the military bakery, a large two-storey U-shaped building. It contains four large ovens and water-supply.

Water - supply.—Derna has an exceptionally good and abundant water-supply. Besides numerous wells in the town and oasis, water was supplied during the Turkish rule by two open conduits running down the wadi. The left-hand conduit, Sag el Balad, came from the spring known as Ain Derna,

nearly 3 miles from the town and 174 feet above sea-level. Its supply amounted to about 65 gallons per second. The other, Sag Bu Mansur, came from a spring considerably farther away. It was destroyed by the Turks as soon as the Italians occupied Derna, but the water from Ain Derna was sufficient by itself for the needs of the town and garrison. To avoid trouble caused by assaults on the open conduit a barrage was constructed across Wadi Derna immediately above the Italian lines, forming a pool from which water was led by a cast-iron pipe of small diameter to a masonry reservoir holding 19,500 gallons close to the gate in Wadi Derna. The water was filtered before entering the cast-iron pipe, but it was still liable to be tampered with by the Turks and Arabs. Later a cast-iron pipe $5\frac{1}{4}$ inches in diameter was laid the whole distance from Ain Derna to the town. This provided 5 litres (about a gallon) a second, or 96,000 gallons in 24 hours. Before this pipe reached the town, water was taken off (a) by a Worthington pump driven by an Otto cycle engine (situated halfway between the town wall and the barrage) to the old 'Redoubt C', west of the wadi, and an adjoining encampment on the east; (b) to the masonry reservoir at Wadi gate, from which it was distributed in tanks on the Décauville railway, by motor and on animals; (c) to the old military bakery. The rest of the water, about 60 per cent. of the whole, was distributed in mains of 50 mm. (2 in.) diameter and secondary pipes of 35 mm. ($1\frac{1}{8}$ in.) diameter to various parts of the town.

The system is to be enlarged so as to utilize the whole supply, which is 600,000–1,000,000 gallons daily. The old conduits will be reopened, but only used for irrigation.

A large ice factory has been constructed.

Plant for boiling water has been set up near Wadi Laggati, but it has not been used on account of the excellence of the water already available.

Roads.—Inside the town and oasis the streets and roads have been improved for wheeled traffic. All the more frequented roads are now metalled and some are provided

with side-walks. Décauville railway lines run along the chief roads.

Several good mule-paths were constructed early in the Turco-Italian war, leading up the escarpment of the plateau. A motor road was then built, climbing the left side of Wadi Derna, and giving direct communication between the port and the Marabut and Signal forts on the plateau. A similar road ascends the right side of the wadi, but its gradients are steeper and only admit of light traffic. It has now been improved for use by motors and will perhaps be extended to Kasr el Leben, Sidi Aziz, and Martuba.

A *funicular* (Maglietta type) was constructed for supplying the garrison of Olive-tree fort with materials and provisions. It crossed the Jaraba valley and was 918 ft. long, starting from the Jaraba casemate. It carried loads of 500 lb.

Wireless.—A powerful station of German construction, with four lattice-work steel masts, was erected under the Turkish rule near the lighthouse. It was capable of direct communication with Constantinople. It was damaged by the Italian bombardment, but has been refitted and enlarged so as to accommodate the staff and additional apparatus.

Fortifications.—The town, like Tripoli and Benghazi, has been surrounded with a stone wall. It is 14 ft. high and strengthened by buttresses. It is irregularly polygonal in plan, with flanking bastions at the angles; its total length is 4,960 metres, or rather over 3 miles. There are loopholes for rifle fire at least every 15 or 20 yards. Where the ground is steep the wall is built in steps, and where the slopes (at the sides of Wadi Derna) are precipitous it is interrupted. The cliffs of Wadi Derna are about 75 ft. high. The principal gates are as follows:

Tobruk road.

Piedmont Redoubt road.

In Wadi Derna.

On road leading to the plateau in the western sector.

Benghazi road.

There are secondary gates leading to the settlements, &c.,

outside the wall. Each gate is defended by a loopholed casemate ; other casemates are located at the extremities and dominating points of the enceinte.

The line of Italian defences during the Turco-Italian war was composed of the following works. They lie for the most part outside the later enceinte.

On the right bank of the Wadi Laggati, close to the shore of the harbour, the Sea Redoubt. 2,000 yards south of this is Ruin Fort, with an outlying work 1,200 yards to the south. The ridge running 3,000 yards W. from Ruin Fort is defended by Turk Fort (a small work) and Piedmont Redoubt. In front of this line of works the ground falls steeply into Wadi Bu Rues, running WNW. into Wadi Derna. Behind Turk Fort, across a wadi, is Pisa Redoubt, and behind Piedmont Redoubt is Redoubt E. West of these the defences are intersected by the precipitous Wadi Derna. On its opposite (left) bank the line is continued by Verona Redoubt, Lombardy Redoubt (with Marabut Fort, advanced 1,000 yards to the west) and Calabria Redoubt. From the latter work the ground falls steeply away for 1,600 yards to the sea west of Derna.

Bomba

The Gulf of Bomba is a somewhat deeply recessed bay facing due east. It is a good and sheltered anchorage for ships of all sizes except in east winds. The shore is sandy, and Bomba itself, with two small Turkish barracks and some wells of brackish water, unhealthy.

Tobruk

Tobruk has the best natural harbour on the north coast of Africa. It is about $\frac{3}{4}$ mile across and 2 miles deep. It gives complete shelter except from easterly and south-easterly winds. The greatest depth inshore is on the south side ; the western end of the harbour is shallow. It is an Italian naval base and commercial port. The new Italian town lies in a small plain, about 1,500 by 2,000 yards north of the

harbour. The more important buildings lie close to the water's edge ; behind these are the various wooden structures, barracks, &c. The northern edge of the plain is occupied by the hospital ; beyond this rises a range of hills, with the observatory on its western end and the wireless station farther east. West of the observatory a road runs north to an inlet on the coast, Marsa Mrera, where the slaughter-house is situated. A network of roads radiates from the town. One runs NNW. and W. from the plain, between Jebel Abd Rabba and Jebel Jebbana, about $2\frac{1}{2}$ miles ; a second runs WSW. from the head of the harbour, and a third SSW. from the same point ascending the steep hills between Wadi Sdaria and Wadi el Kaf ; a fourth follows the SW. shore of the harbour to Marsa Sharafa and then ascends the hills in a wadi. These roads, all about the same length, form radii of a semicircle whose perimeter is a road built for strategic purposes during the Italians' defence of Tobruk. The third radiating road is prolonged to Mdawar, about $12\frac{1}{2}$ miles inland. All these roads were primarily military ; the gradients in no case exceed 1 in 17.

Harbour works.—The old wooden pier has been repaired and strengthened. Two other jetties exist. A wharf opposite the quarantine station is under construction, and plans for other wharves have been made. Custom-house and harbour-master's office have been built. Boats can be beached on the shore near the town.

Fortifications.—Several forts on the landward side were constructed in 1911–12. They include forts Airenti, Perrone, Marcucci, and Solaro, as well as smaller redoubts. A wall with guns, searchlights, observation towers, &c., was built later.

Officers' quarters.—A large two-storey house. It contains water-tanks filled by a hand-pump from a cistern in the neighbourhood ; also a tank for rain-water from the flat roof.

Barracks.—A masonry building to accommodate a company of 150 men. It includes armoury for 1,000 rifles and all offices and store-rooms.

Military bakery.—Contains two large ovens and one small ;

various store-rooms (flour, bread, provisions, &c.), and a small generating plant supplying electric light to the military buildings of the town.

The foregoing three buildings are situated side by side along the shore of the harbour. The officers' quarters are the most conspicuous.

Wooden buildings.—Head-quarters of the military zone (to be transferred to the ground floor of the officers' quarters); quarters for a detachment of Royal Carabineers; offices of finance, civil and political and commissariat services; huts for the 30th and 20th (infantry) regiments, officers and men; quarters for a special company of sappers, a special company of gunners, and the 20th mountain battery; military hospital (100 beds); veterinary hospital; aviation park (a number of hangars, containing in 1914 three monoplanes); pigeon-post station (dovecote for 160 pigeons).

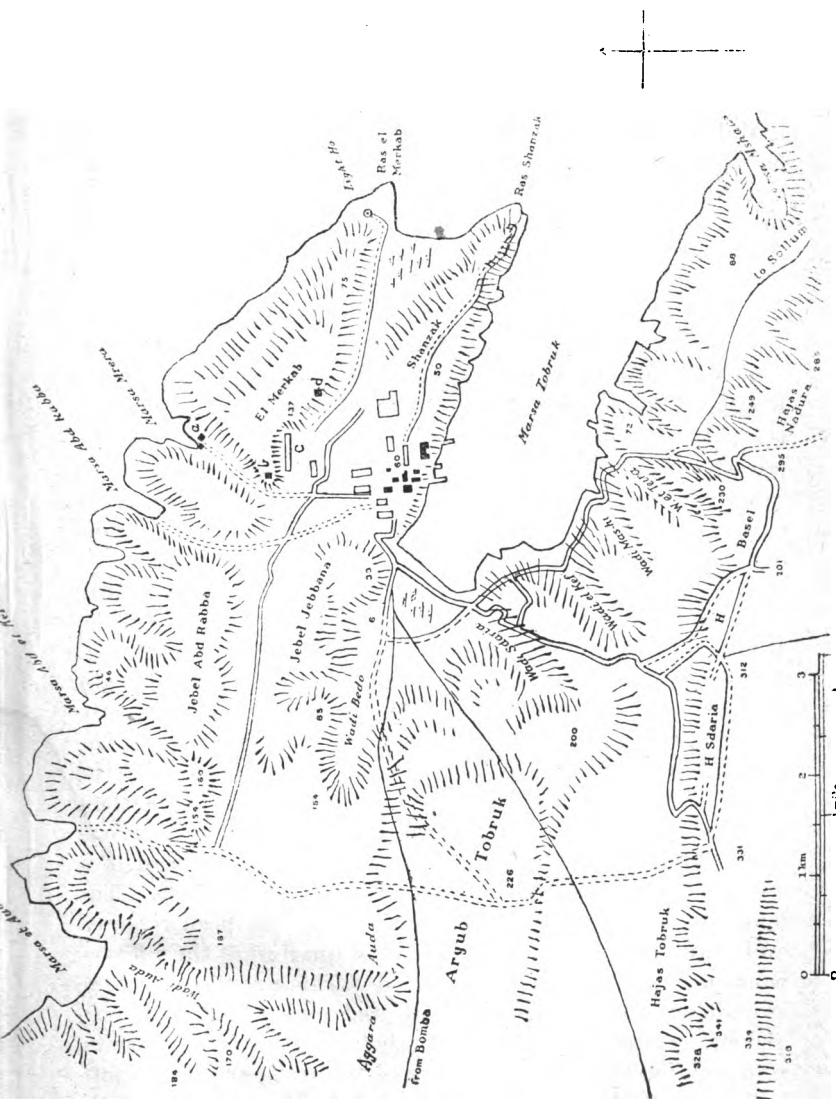
Water-supply.—In the absence of a local supply water was at first brought by sea and pumped from the vessel into tanks in the town. Condensing plant has now been installed, capable of producing 20 tons of drinking-water per day. It is proposed to enlarge this plant so as to produce 60 tons per day. Eleven old cisterns, holding 70,500 cubic ft., have been cleaned and repaired; two new ones, holding 19,390 and 4,940 cubic ft., constructed; and a large ancient Roman rain-water cistern, holding 300,000 cubic ft., is being put in order.

Refrigerator.—Capable of producing 1,400 lb. of ice in 10 hours. The ice is used for cooling the condenser of the distilling plant.

Wireless.—The station is on the hills north of the town.

Sollum

Sollum, the frontier coast-town of Egypt, lies at the head of Sollum Bay, sheltered on the W. by the escarpment (600 ft. high) known as the Hagag es Sollum, which runs NNW. to Ras el Melh. There is a good jetty for vessels up to 5 or 10 tons, and a breakwater making a small harbour for ships' boats. Outside is an anchorage sheltered from all winds



ТОРБУК.—Heights in feet. *a.* Slaughter-house; *b.* Observatory; *c.* Hospital; *d.* Wireless station; ■ Masonry buildings; □ Rocks of wooden buildings

except E. and NE. The village is now destroyed ; there are 200-300 native wells, but the only good water-supply is an inexhaustible Roman well in the Turkish fort on the plateau, reached by a well-made road rising 600 ft. in a mile.

Half-way between Sollum and Ras el Melh is a small harbour, Port Bardia, otherwise known as Marsa Suleiman ; village, palm sand wells, destroyed 1916 ; anchorage for vessels up to 4,000 tons or more, and (like Sollum) much used till April 1916 by German submarines.

4. INLAND TOWNS OF CYRENAICA

Merj

The plain of Merj is oval in shape and measures 18 by 6 miles. On three sides it is surrounded by mountains ; the side towards Benghazi is open. There are pools in the lowest parts of the plain, which spread considerably in the rainy season. About $\frac{1}{10}$ of the plain is at present under cultivation (barley), but the whole is very fertile and capable of great agricultural development.

The small town of Merj (ancient Barke) lies in the centre of the plain among luxuriant gardens, on a slight elevation. It measures about 860 by 300 yards, and has 3,000 inhabitants. There are two main streets, crossing in the centre at right angles ; one represents the inland road from Benghazi to Tolmita, the other a road running inland from Tokra. The houses are reddish in appearance, and each has a garden in the centre. There are a *zawia*, a fine square, and a large market. The *kasr* is situated on the site of an ancient Roman fortification. It commands the entire town. In ground plan it is 55 yards square, with round turrets at the corners. The materials are stone and clay-mortar. It has been repaired and adapted to accommodate the head-quarters of the military zone, a garrison of 250 men, and various services. Large store-houses have been fitted up and replenished with provisions. Guns have been mounted on the corner turrets, commanding the whole plain ; and the walls are to be loop-holed for rifle-fire and flanked by bastions.

Cyrene

Cyrene, the ancient capital of Cyrenaica, is not now a town of any importance. There is a *zawia*, situated on the road from Marsa Susa to Zawia Feidia and Ghagab ; and there is a large number of wells. Some buildings, however, notably military huts, have been erected by the Italians. The surrounding country is fertile, but not much cultivated.

Ghagab

Ghagab is about 16 miles SE. of Cyrene. It lies in a barren plain and has a large square *kasr* similar in type to that of Merj. It has a good and abundant water-supply, and is a place of some strategic importance.

CHAPTER IX

OASES OF THE INTERIOR¹

Jofra

THE oasis of Jofra is an oval depression, about 800–1,000 ft. above sea-level, lying immediately north of the Jebel es Soda or Black Mountains. It measures about 28 by 15 miles, its total area being 750 square miles. Of this area, however, only about $\frac{1}{20}$ is cultivable, namely, the so-called Gherara in the neighbourhood of Hon. Here cultivation takes place, but not every year. The rest of the oasis is composed of stony plains which are insufficiently watered for agriculture.

Jofra is divided into two parts by a range of hills running N. and S. From north to south, these hills are called Jebel Hamora, Jebel Turinin, Jebel Filgi (1,486 ft.), Jebel Tassilet, and Jebel Afia. West of this range the oasis is semicircular in form, with the town of **Sokna** near the centre, $2\frac{1}{2}$ miles W. of Jebel Filgi. It stands 879 ft. above sea-level, and is the chief town of the oasis, though not the largest. It contains a very influential Senussi *zawia*. The houses are of stone; the streets are very tortuous and narrow. Sokna is inhabited by Berbers; the population is variously estimated, but is probably about 1,900. There are palm groves and several good wells south of the town; but the wells in the town are brackish and contaminated by sewage. Other wells are situated in palm groves at various parts of the plain, which is intersected by a series of wadis running N. or NE. The semicircle of hills surrounding this end of the oasis is known on the north as Jebel Makhrik; on the south it has various local names.

East of the central range, 9 miles ENE. of Sokna, lies the town of **Hon** (696 ft. above sea-level). It is somewhat larger

¹ Cf. footnote at beginning of chapter viii.

than Sokna and is inhabited by Arabs. It contains several mosques, and is surrounded by a considerable area of cultivable land.

12 miles farther E., towards the edge of the oasis, lies the holy city of **Wadan**, situated on a hill in the middle of palm-groves and containing a Senussi *zawia* and one mosque.

The total population of Jofra is estimated at 8,000. It consists of Arabs and Berbers, with some other elements of various kinds. The inhabitants are chiefly engaged in horticulture; there is very little trade, and what there is is carried on by Arabs of other tribes. They grow rice, wheat, and millet in their gardens, and when there is rain in fields; their vegetables include tomatoes, cabbages, melons, water-melons, egg-fruit, &c., and there are also a few vines, almonds, olives, pomegranates, figs, apricots, peaches, and apples, with fruit the size of walnuts.

Domestic animals include a few horses, donkeys, cattle (used almost exclusively for drawing water), fat-tailed sheep, goats, dogs, cats, poultry, and pigeons.

There are very few wild animals; these include antelopes (which supply very good venison) and gazelles. There are no large carnivora.

Water is to be found at a depth of 16 feet or less all over the oasis. In the gardens and villages it occurs 12 feet down. To reach it, however, wells must be sunk through a stratum of limestone.

Jofra is a very healthy region. It is extremely hot, but the atmosphere is as dry as that of the Sahara; in consequence, fevers are rare; the intermittent fever of the Fezzan is unknown, and ophthalmia, the only endemic disease, is much less common than elsewhere. The prevalent winds are N. and NNW. The abundant water-supply is perhaps due in part to the condensation of these winds on the mountains of Jebel es Soda.

Polygamy is almost unknown. Tattooing is rare. Every adult wears a ring (silver or other material according to wealth, and often containing stones of small value) on the

little finger of the right hand, and various charms for protection against the evil eye.

Sokna has a wireless station communicating with Brak and Sirte. There are smaller stations at Wadan and at Bir Gashifa SW. of Sokna.

Sella

Sella is the next oasis of any importance east of Jofra, from which it lies 125 miles E. by S., and 220 miles W. by S. from Aujila. It lies immediately N. of the Haruji mountains (Jebel Haruji es Soda) and is one of the richest and, for its size, most populous oases of the region. It measures $7\frac{1}{2}$ miles from E. to W. and 3 miles from N. to S. It contains 100,000 palms, and had, in 1911, 1,500 inhabitants, almost all belonging to the Aulad Khris tribe of Arabs. There are two mosques with schools attached. A wireless station was projected in 1914.

Though Sella lies on an important desert route, the main caravan road east from Tripoli, there is practically no trade, and only enough industry to satisfy the needs of the inhabitants. They are extremely rich in camels; but the trade-route to Tripoli lies through the territory of the Orfella tribe, with whom the Aulad Khris have a feud, and in consequence there is no direct communication.

North of Sella, and adjoining it, lies the smaller oasis of **Tirsa**. In 1869 this contained 300 inhabitants; it appears to be now uninhabited.

Oases between Sella and Aujila

There are three of these. They are all uninhabited, and visited from time to time by bands of nomads and robbers from the steppe, who collect the wild dates and pasture their camels there.

Abu Naim is 80 miles ENE. of Sella, and 125 miles W. $\frac{1}{2}$ S. of Aujila. It is only 160 ft. above sea-level. There are antelopes and gazelles. The water of the well is warm and so strongly sulphurous (sulphuretted hydrogen) as to be almost

undrinkable. It is visited by the Aulad Suleiman, Aulad esh Sheikh, Mugharba, Zuia, and Aulad Khreis tribes; also by robbers from the north.

Marade is equidistant from Abu Naim and Jibbena, 37 miles ENE. of Abu Naim and W. by N. of Jibbena.

Jibbena is 56 miles W. of Aujila. It is about the same size as Abu Naim, and includes three wells, Ain Jibbena, Ain Dikker, and Ain Nisha. The water in all is bad.

Aujila-Jalo group

This group consists of five oases; Aujila, Jalo, Wadi, Leskerre, and Bir Battifal.

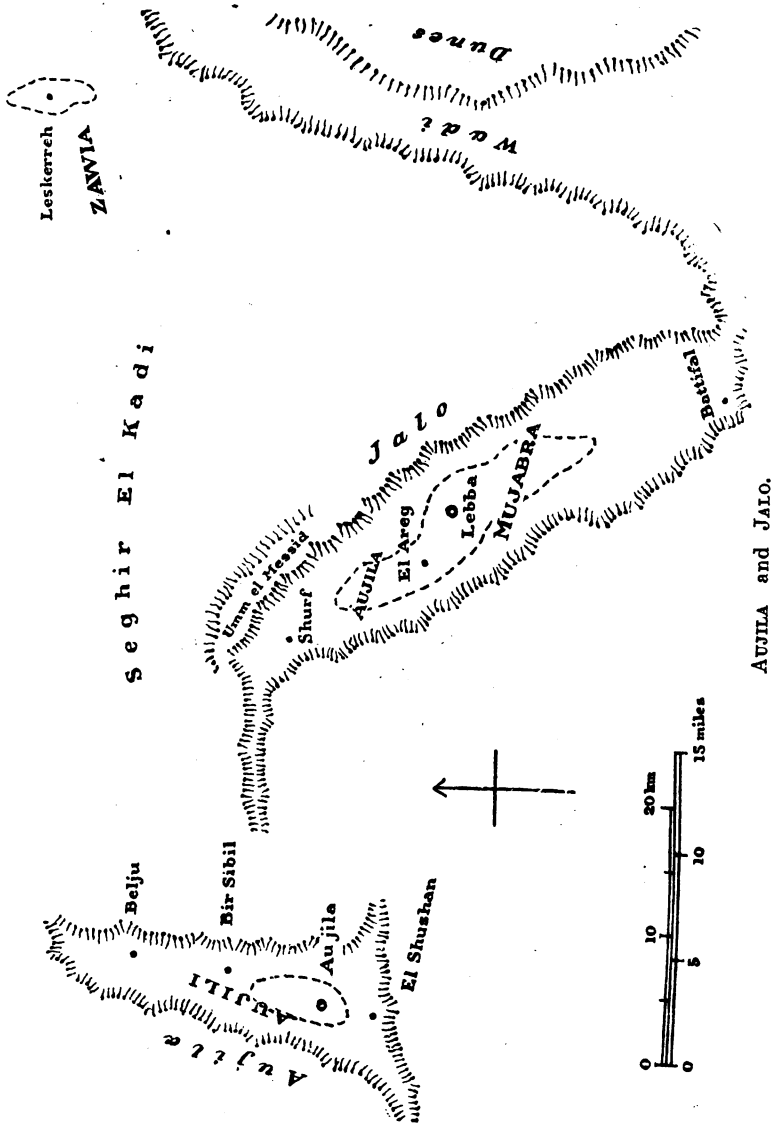
Aujila is the westernmost of the group. It lies about 12 miles WNW. of Jalo. It is 220 miles from Sella, about 330 miles E. of Sokna (in Jofra), and about 200 miles ESE. of Benghazi.

It lies 90 feet above sea-level, at the bottom of a depression 12 miles long N. and S. by less than $\frac{1}{2}$ mile across. The depression is somewhat crescent-shaped and has its convex side towards the east. The city of Aujila contains 2,500 inhabitants. It is badly built of limestone from the neighbouring hills. The houses have only one storey; in the centre of each is a small courtyard round which the rooms are arranged. The streets are narrow and crooked, and there are no less than 13 mosques, and a Senussi *zawia*.

The total population of the oasis is estimated at 4,000, all members of the Aujili tribe of Berbers. Rohlfs asserts that they are skilled guides and know every route for great distances in all directions. According to a later authority this description applies to the inhabitants of the neighbouring oasis of Jalo, while the Aujili do not travel at all.

The high population (4,000 in $8\frac{1}{2}$ square miles) and cultivation of Aujila (40,000 palm-trees) is due to the fact that it contains the only spring of really fresh water in the Aujila-Jalo group of oases. This fact makes it the most important member of the group and the chief centre of caravan traffic in the southern Cyrenaica.

Horticulture is the chief pursuit of the inhabitants, and



a considerable variety of vegetables is produced. There is no game or fish ; domestic animals (donkeys, goats, fat-tailed sheep) are not common. Donkeys are used for drawing water.

Jalo occupies the centre of the group. It is 12 miles ESE. of Aujila. It is 12 miles long from NW. to SE., and 7 miles broad, with an area of about 80 square miles. It is estimated to contain 100,000 palm-trees and a population of 6,000. The population belongs to the Mujabra tribe, nominally Arab, but with a strong admixture of Berber ; there is also a strain of negro blood, which makes the complexion of the inhabitants darker than the average.

Jalo is much larger than Aujila, but contains no fresh water, and is interrupted by considerable stretches of desert country and sand-hills. The principal centres of population are the villages of **Lebba** and **El Areg**. It produces a few cereals and vegetables and some fruit, especially dates, which are abundant and of excellent quality. There are a great many camels, which are bred and supplied in large numbers to caravans ; but no donkeys or cattle, only 3 or 4 horses and a few dogs ; also goats, sheep, and poultry.

There are practically no wild animals except foxes, wolves, and jackals.

Wadi lies about 18 miles E. of Jalo, on the caravan route to Jaghub. It is a long depression running approximately N. and S., 80 square miles in area. It is said to have a population of 1,000, and 40,000 palm-trees ; the water is of inferior quality.

North of Wadi is **Leskerre**, a small oasis of 4 square miles, with 20,000 palm-trees and an estimated population of 500.

Bir Battifal is a hollow containing a few water-holes, with no human habitation and practically no vegetation, lying S. of Wadi. It is chiefly noteworthy as lying on the road to Kufra, for which it is the point of departure (250 miles march S. by W. to Taiserbo).

Oases of the Egyptian Frontier : Jaghbub and Siwa

The oasis of **Jaghbub** lies about 185 miles ENE. of Jalo and 300 miles or more ESE. of Benghazi. The nearest oasis is that of Siwa, which lies about 65 miles ESE.

Its chief importance consists in its connexion with Senussism. Before the rise of this sect it was almost, if not quite, uninhabited. In the year 1855 Mohammed ben Ali es Senussi, whose seat had previously been El Baida, near the ancient town of Cyrene, moved to Jaghbub, in consequence of the rapid increase of his sect and the necessity for greater independence. Jaghbub was already an important centre of caravan traffic, and was too remote to be brought directly under any external control. It was, therefore, a very good head-quarters for the new sect. A large *zawia* or Senussi college was built, and the population increased rapidly till in 1886 it numbered 6,000–7,000. The water-supply came partly from wells in the town and partly (by aqueducts) from other parts of the oasis. The town has walls 13–15 ft. high.

On the advance of French and English influence in the Sudan and Sahara, and the simultaneous increase of Turkish activity in Cyrenaica, it was thought desirable to move to a still more remote place ; and accordingly, in 1895, the then head of Senussism (Sidi el Mahdi, son of the founder) took up his residence in Kufra (q.v.). From this period the importance of Jaghbub has declined and its population somewhat decreased. In 1913 the population was estimated at 400 ; but it is still one of the chief centres of Senussism, second in importance only to Kufra, and with the exception of Cairo the leading seat of learning in northern Africa.

The oasis of Jaghbub contains salt marshes, which do not appear to affect the quality of its water-supply.

The oasis of **Siwa** was in ancient times the seat of the famous oracle of Jupiter Ammon. It is about 30 miles long from E. to W. and about 4 broad from N. to S. On the north it is bounded by the steep edge of the Libyan coast-plateau (from E. to W. Jebel Mulei Yus or Umm el Heyus, J. Meles,

J. Ndefer, J. Deheba, J. Rati, and J. Wasidi), in which it forms a crescent-shaped indentation. The southern limit, somewhat ill defined, is formed by the sand-dunes of the desert. There are various outlying limestone rocks here and there; in the west Jebel Jari and Jebel Amelal, and south of these, on the edge of the desert, the hill on which the ruins of Masra stand; in the centre the rocks of Siwa and Aghermi, and north of the former Jebel Muta. South of Siwa itself, on the edge of the desert, is Jebel Hammed, and east of this Jebel Brik, a short range with five summits running N. and S.

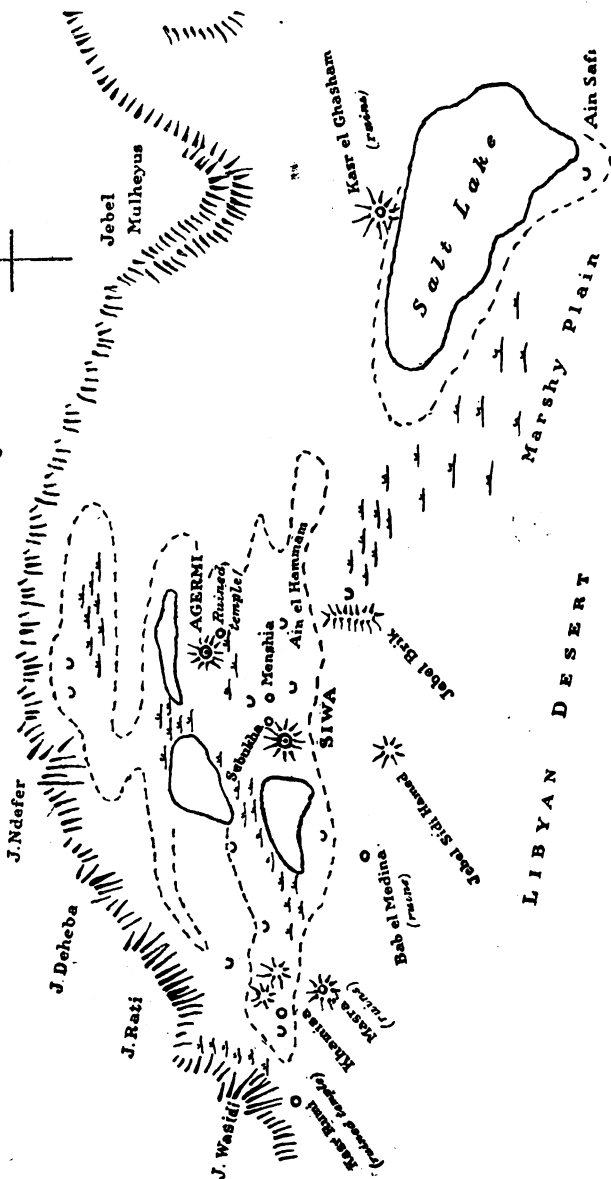
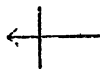
The centre of the oasis is occupied by a chain of salt lakes and marshes. It is, however, watered by about 200 fresh springs, of which some 80 are fit for drinking; these make the soil very fertile. The most copious spring is at Khamisa, in the west of the oasis; but the best known is Ain Hammam, E. of Siwa and S. of Aghermi, known in antiquity as the Fountain of the Sun and said to be hot at night and cold in the daytime. Most of the springs are surrounded by well-built masonry and provided with overflow-channels which irrigate the neighbouring land.

The climate is somewhat unhealthy, owing to the stagnant marshes. A dangerous type of fever is endemic, especially in late summer, which is very fatal to strangers. The death-rate among the inhabitants is high and their physique not very good.

The vegetation is rich and varied. There are over 300,000 date-palms, and 9,000 camel-loads are exported in a good year. Olive-trees grow and bear very well. Vines, pomegranates, apricots, peaches, plums, and apples grow everywhere; oranges and lemons only in the west, at Khamisa. Vegetables are grown in much the same varieties as at Aujila (carrots, beans, tomatoes, &c.), but the abundance of running water from the springs gives special facilities for horticulture. The produce is at present considerably more than sufficient for the needs of the inhabitants.

Domestic animals include sheep and goats, donkeys, and

DESERT PLATEAU



- Villages & Ruins
- U Springs
- ~ Salt Marshes
- Limit of Palm trees & cultivation.

Siwa.

a few cattle ; these suffer from the bite of a fly somewhat like the tsetse, which prevents camel-breeding in Siwa. Wood-pigeons are common. There is a considerable salt-industry.

The inhabitants are Berbers, and speak a Berber dialect ; but they are much darker in complexion than the average Berber, though not negroid in type. Probably, like the other sedentary Berbers of the oases, they have absorbed a considerable quantity of negro blood. Their numbers have been variously estimated at 4,000–8,000.

The chief produce is oil and dates, which are exported to Egypt. There are no manufactures except palm baskets and mats. There are smiths, cobblers, tailors, locksmiths, and carpenters to meet the requirements of the inhabitants.

The town of **Siwa** is built on a small limestone rock. It is cramped for space and the houses are high. There are four gates. The streets, of which there are four, are roofed over and very low and dark, with alleys branching in all directions. There are perhaps 3,500 inhabitants.

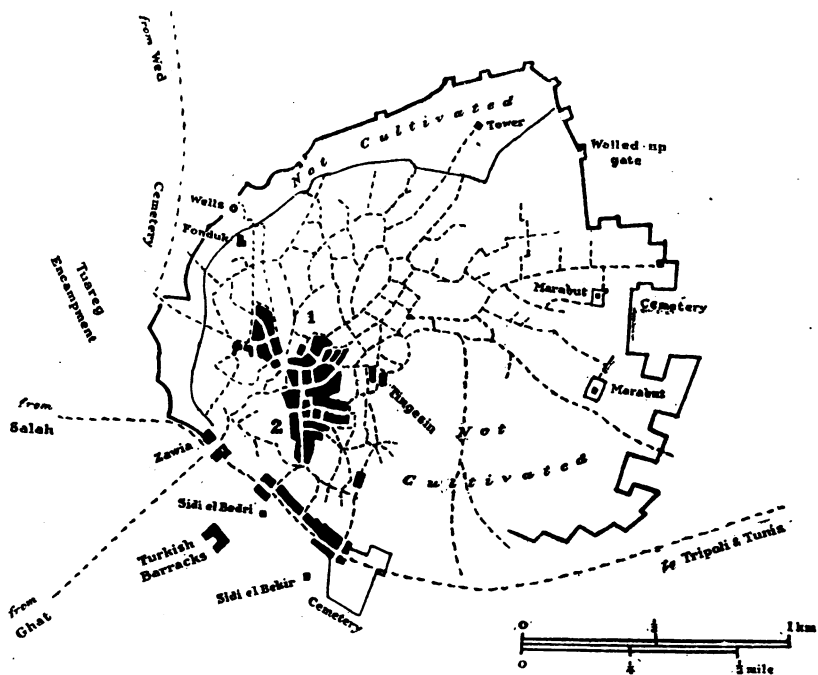
Aghermi, the other town, lies, also on a rock, $1\frac{1}{2}$ m. NE. It is inhabited by the Gharbiyin, between whom and the Lifaya of Siwa there is a feud of long standing. South of Aghermi are ruins of ancient temples, and close to Siwa are the villages **Sebukha** and **Menshia**. In the west is **Khamisa**.

See further, *Military Notes on Western Egypt*.

Ghadames

Ghadames (the ancient Cydamus, 758 feet above sea-level) is an outlying oasis on the Tunisian frontier. It is an important junction of caravan routes for Tripoli, Tunis, Fezzan, Air, Lake Chad, &c. It was independent till 1843, when it was occupied by the Turks. They imposed upon it a tribute of 250,000 francs and maintained a small garrison there.

The entire oasis is enclosed by a wall 13–16 ft. high, now in great part ruinous. The enclosure is oval and measures $\frac{9}{10}$ mile from N. to S. by 1 mile E. and W. It is watered by a spring, Ain el Fers, rising from a depth of 400 feet and having a slightly thermal character (there are a few wells,



GHADAMES.—1. Beni Ulid ; 2. Beni Wazit.

but their water is not drinkable). The water is distributed over the oasis by means of five canals (*seghias*), and irrigates, with the help of wells and cisterns, an area of 150 acres. This includes palm trees to the number of 63,000, and also orchards and vegetable gardens. The produce of these is, however, only about 10 per cent. of the needs of the inhabitants, who depend for their subsistence chiefly upon imports. Food-stuffs are imported chiefly from the neighbouring oasis of Derj (see below). The cultivable area was once much larger.

The city lies in the SW. part of the oasis. It consists of two entirely distinct quarters, Beni Ulid on the north and Beni Wazit on the south. Each quarter has its own mosque, school, &c. The streets are narrow and vaulted over, and are in consequence very dark. At intervals there are skylights, near which are shops, smithies, &c. A market is held every Friday afternoon. The houses have only one storey, and have no courtyard; the flat roofs are pierced where necessary by skylights. The roofs of the vaults over the streets are used by the women for spinning and weaving, and also as a general meeting-place.

The only buildings of any importance are the two mosques. Elementary schools are attached to them, and the local standard of education is high. The town is healthy; ophthalmia is unknown and fever rare.

The number of inhabitants is about 4,000. They are composed of Berbers, Arabs, Sudanese negroes (liberated slaves) and Fullahs from the upper Niger. Each group keeps very much to itself and has its own customs and language. The only common meeting-places for all sections of the population are the market-place and the *zawia* of the Senussi outside the SW. gate of the town.

Most of the inhabitants are of fair complexion. Monogamy is said to be universal. They live almost entirely by commerce, and have a high reputation for honesty.

SW. of the town is an encampment of about 100 Tuareg, who are the close allies of the townspeople and protect their commerce.

There is a wireless station in communication with Nalut.

Derj is a group of four villages with oases containing about 800,000 palms, lying 60 miles E. of Ghadames, in the same depression. It is better supplied with water and vegetation ; but being a place of little importance for strategic and commercial purposes it has a small population which produces far more (dates, vegetables, &c.) than it requires for its own use. The surplus has from time immemorial been exported to Ghadames, of which Derj is considered a kind of suburb. Malaria is prevalent.

Sinaun is a group of oases, formerly of some importance but now falling into complete decay, lying rather more than 100 miles NE. of Ghadames, in the bed of a dried-up *sebkha*. It has a post of *meharisti*, telegraph and postal services. It comprises Sinaun proper or Beled Utia (a fort near the road, a Senussi *zawia* and the hamlets of Kasr el Otani 450 yds. to N., Kasr Fokani 350 yds. to WNW., and Ain Ali 1 mile to E.) with 350 inhabitants ; and Shawa, 4 m. WSW. of Beled Utia (hamlets of Karadra and Ben Masa) with 350 inhabitants. Most of the inhabitants have moved to Ghadames in consequence of the progressive silting-up of the oasis by sand. There are about 1,000–1,500 palms ; the water is very rich in magnesia, and in many places contains worms and leeches.

Ghat

An important outlying oasis west of Fezzan, 280 miles S. of Ghadames and 570 miles from Tripoli. It covers one of the few passes leading over the great volcanic mountain-range (here called Azjer) which stretches across the Sahara from NW. to SE. Routes run ENE. to Murzuk (Fezzan), N. to Ghadames, SSE. to Lake Chad and SSW. to Air. It is very little known to Europeans ; almost all travellers have been turned back or killed. It was only conquered by Turkey in 1874. In 1911 it contained 8,000 inhabitants.

The town is said to be 1,300 feet above sea-level and 700 yards square. There are 3,000 palm trees inside the

walls and 4,000 inhabitants, who are almost all Tuareg (Berbers). Commerce is their sole means of subsistence. The market is large and contains produce from great distances, and there is a great fair held outside the walls, north of the city, twice a year. The commercial languages are Arabic and Haussa ; all merchants speak both. Turkish and Tripolitan piastres and Maria Theresa dollars are current.

The houses are built of clay and palm-leaves. There are three separate quarters in the city, which includes two mosques and a Senussi *zawia*. There is a well in the *zawia* and another in one mosque. Round the city are plenty of wells and palm-trees. The climate is comparatively temperate. It is estimated that 30,000 camels laden with merchandise pass through Ghat yearly.

A wireless station, to communicate with Ghadames and Murzuk, was projected in 1914.

Kufra Group

Kufra is a group of five oases lying directly S. from Cyrenaica. It is reached from Jalo, the distance being 250 miles (200 miles in a straight line) over absolutely waterless and sandy desert ; a high Italian authority says that twelve days is the shortest possible time in which Taiserbo can be reached from Jalo.¹ There are said to be routes SSW. from Siwa and S. by W. from Jaghbub, the distance being somewhat longer. WSW. from Farafra it is about 330 miles in a straight line ; the nearest point of the Nile valley is 620 miles. Southward a caravan route from Kufra leads to Wajanga (480 miles), Wadai and Darfur ; on the west the nearest oasis is Wau el Kebir, 290 miles. The natural inaccessibility of Kufra is increased by the policy of the Senussi sect by whom it is inhabited. They desire to maintain their independence in Kufra, and for this purpose discourage the construction of wells along the desert routes. Not one of the caravan routes mentioned above passes a single well.

¹ Rohlfs claims to have made the journey on fast camels, travelling day and night, in a little over four days.

The country has only once been visited by a European, viz. Rohlfs, in 1879, but his information can be supplemented from native sources.

The central oasis is that of Buseima. Round this, at the average distance of 100 km., lie to the NW. Taiserbo, to NE. Zighen, to SE. Kebabo, and to SW. Erbehna.

Kebabo (SE.) is the chief oasis (820 ft. above sea-level). It is reached by a desert route crossing sand dunes SE. by E. from Buseima, passing first (on the r.) a hill known as Gor Sibbel el Abid, and then (on the r.) Jebel Neri, a mountain chain running E. and W., terminating to westward in Jebel Erbehna, which overlooks the oasis of that name.

The oasis is divided into two parts by a range of hills running approximately E. and W. The northern section (known in the east as Hwewiri and in the west as Hawari) consists of a palm-grove measuring about 30 miles E. and W. by 6 miles N. and S. The southern part is larger; the palm-grove measures approximately 44 by 9 miles, and contains Jof, the principal village (el Jof, 'the hollow'), with 200 inhabitants, and the *zawia* or Senussi college.

The *zawia* stands (according to Rohlfs) on a barren rocky hill $7\frac{1}{2}$ miles from the village of Jof, and has the appearance of a fort. It is surrounded by high walls, over which (in Rohlfs's illustration) appear the tops of buildings within. The fortified character of the site is explained as a relic from the early days of the Senussi movement, when the inmates were under the necessity of defending themselves against the Tibu or Tebu, an uncivilized and predatory tribe of heathen (Kafara, unbelievers, whence the name Kufra) who have now practically disappeared from the oasis.

A different account of the *zawia* is given by Sheikh Mohamed ben Osman el Hashaishi. He describes it as situated in the village of Jof, facing the market square, which is 110 yards wide. It is a clay and earth building, 38 by 33 yards in extent; the roof is supported on palm-trunks and thatched with palm-leaves. Behind the *zawia* is an enclosure with mud, clay, and stone walls not more than 6 ft. high, containing a

one-storey building, in which lives with his family the Grand Sheikh, the head of the Senussi sect. Within the *zawia* are shops, workshops, &c. The Sheikh was said to possess only the few weapons which would be expected of a wealthy man (5 pistols, 7 swords, 8 old muskets, 2 or 3 modern rifles, &c.), and no extensive armoury ; his state bore no resemblance to that of a king or emir. He employed a smith, a tinker, a book-binder, and a few other craftsmen. These details refer to Sidi el Mahdi, the son of the founder of the sect, since dead (he is believed by the Senussi to be still alive).

The discrepancy between these two reports is probably due to the fact that the head of the Senussi lived in Rohlf's time not at Kufra but at Jaghub. On his removal to Kufra (June 1895) a new *zawia* was doubtless built in the village of Jof to accommodate him and his disciples. Sheikh Mohammed's report (1896) may be taken as describing the conditions in Kufra before the Senussi became a military power.

The *zawia* at Kufra is the chief centre of Senussism. It is inhabited by teachers and students ; the latter are maintained free of charge out of the gifts brought to the *zawia* (generally in kind ; barley, dates, animals, &c., collected and kept in the house of the Sheikh), and the former are given an allowance of food, &c., according to their standing in the college. The students are said to be well trained to use rifles and guns, and to act when necessary as soldiers. Their number is probably over 250.

The Senussi are said to be hospitably inclined towards visitors, and not likely to maltreat them, unless their suspicions are aroused. According to this authority the only danger to travellers is due to certain desert tribes living in the neighbourhood, which make a practice of robbing caravans.

The education of the *zawia* extends (though only by indirect means) to the women, many of whom can read and write and know the Koran.

The houses of the village are built of mud and stones, and washed (walls and floor) with ochre instead of whitewash.

They are thatched with palm-leaves, and have no court-yards. The animals are kept outside the villages.

Water is abundant everywhere at a depth of 3-10 feet, but there are no springs. The water is drawn in a cow-skin or camel-skin on a wooden frame, let down over a pulley by a rope, the other end of which is harnessed to an ox or cow. On reaching the pulley the skin spills, and the animal is trained to walk back and let the skin down into the well again. Water occurs all over the oases, which are completely covered with vegetation and include no stretches of desert such as are commonly found in oases.

The climate is healthy and the heat less violent and oppressive than in most oases. It is said to rain, but not every year.

There is a considerable trade, chiefly by caravans passing through between Cyrenaica and Wadai, Darfur, or Lake Chad. The chief demand is for coarse cotton fabrics, sugar, and tea ; from Wadai come skins, ivory, ebony, ostrich feathers and gums.

The chief domestic animal is the camel. There are also some oxen. The wild animals include gazelles and foxes, and very few other species.

The inhabitants are variously estimated, but probably number about 5,000, of whom 2,000 are Arabs, and the rest slaves, mostly negroes, who do all the work. The Arabs belong for the most part to the Zuia tribe ; there is also an offshoot of the Mujabra, whose chief home is in the oases of Aujila and Jalo. The nucleus of the population is the Senussi body connected with the *zawia* ; the slaves come from Wadai, whose sultan is an adherent of the Senussi sect.

Buseima, the central oasis, is one of the smallest (area, 121 square miles ; 650 ft. above sea-level). It lies NW. by W. from Kebabo, and SE. by E. from Taiserbo. It consists of a lake 6 miles long, surrounded by a belt of palm-trees about $\frac{1}{2}$ mile wide. The lake is extremely salt, but fresh water can be obtained by digging at a short distance from its edge. The greatest length of the lake lies NW. and SE. North of it and abruptly overhanging it stands Jebel Buseima (1,273 ft.),

crowned with the remains of ancient walls. On the mountain and all round it are the ruins of an extensive settlement of the Tebu tribe, the former inhabitants. The oasis is at present uninhabited.

Taiserbo (NW.) is second in importance of the five oases. Its palm-grove measures approximately 60 by 15 miles; the limits of vegetation 90 by 30. Its height is 2,130 ft. above sea-level. In the centre is a long depression known as the Wadi, enclosing a salt marsh. On the S. shore of this is Kasr Jrangedi, a former Tebu castle; to the south lie the small villages Jesira and Mahbus. On the north side is a *zawia*, deserted at the time of Rohlfs's visit (1879), but probably reoccupied since that date. At the E. end of the palm grove is the deserted Tebu settlement of Ksebah, and half-way between this and the *zawia* a well, Ain Jelahed. This well and some others contain minerals; elsewhere the water is reported as fresh. The palm-grove is so thick as to be impassable except where there are artificial paths. The dates are of good quality, and there are wild geese and duck on the salt marsh. In 1912 there was said to be no fixed population; the oasis was, however, occupied at certain seasons by large numbers of herdsmen with their flocks.

Zighen (NE.) has not been visited by Europeans. Its centre is supposed to lie about 70 miles NE. of the centre of Buseima and 100 miles N. of Jof in Kebabo. It measures probably about 50 by 18 miles. Some distance to the south of it lies the mountain-range Jebel Zighen, ENE. from Buseima.

Zighen is a regular halting-place for caravans travelling between Kebabo and the north. The water-supply is said to be large and good, and there is abundance of excellent pasture for camels. It does not appear to be inhabited.

Erbehna (SW.) has not been visited by Europeans, and is not known to be inhabited. In size and character it resembles Buseima; i. e. it contains a large salt lake commanded by a mountain (Jebel Erbehna, the western end of the Jebel Neri range) on the north and surrounded by a palm-grove.

Fezzan

Fezzan is a vast desert region lying to the south of Tripoli proper. Its boundaries are very vague. On the north it is sometimes held to include the oases of Jofra, Sella, and even Bu Njem, but it is generally considered as bounded on the north by the Jebel es Soda. On the east there is no definite boundary, but Fezzan stops short of the oases of Kufra. On the south the Tummo mountains form a convenient boundary, and westward Ghat lies outside the district.

For practical purposes, however, Fezzan consists of the town of Murzuk and a number of oases within a radius of about 130 miles of it, along various desert caravan-routes; viz. N. by Sebkhah to Tripoli, ENE by Temisa to Sella and Aujila, S. by Katrun to Wadai and Lake Chad, and W. to Ghat, joining there the route from Ghadames and Air.

This region consists of a desert plateau intersected by three large wadis running approximately from west to east. These never contain running water, but in their bottoms (which lie 300–700 ft. below the desert level) are a number of oases, and water can be found 10–14 ft. down almost everywhere.

(1) **Wadi es Shiyati** on the north. This trough separates the rocky and mountainous desert Hammada el Homra (extending southwards from the Tripolitan Jebel) from the large sand dunes of the Edeyen region lying south of it. At the W. end of this wadi lies the oasis of **Ederi**, on the road NNW. from Murzuk to the outlying oasis, El Hassi, and so across the Hammada el Homra to Tripoli. East from Ederi runs a series of small oases, of which the most important are the easternmost, **Zighen**, on the road from Murzuk to Jofra, and **Brak**, further to the west, a military post with a large wireless station. South of Wadi es Shiyati is the sandy desert region of Edeyen. It contains a number of alkaline lakes.

(2) **Wadi Layal** separates the Edeyen from the Hammada (rocky desert) of Murzuk. It is about 300 miles long, and 120 miles of its length are occupied by oases. Its average width

is 5 miles. It is divided in the middle into two portions. The western and higher, Wadi el Gharbi, contains few oases of importance. The eastern, Wadi es Sherki, merges into the desert at Sebkhah, but its line is continued by the small oases of **Temenhint**, **Semnu**, and **Zighen**. At Zighen this line joins that of the Wadi es Shiyati. Half-way between this point and Sella is the outlying oasis of **Foghaa**.

The Hammada of Murzuk, south of Wadi Lajal, contains a few wells. It is intersected by the long and narrow Wadi Otba, a depression in which the most important oasis is **Ghodwa**. It also contains the oasis of **Tessawa**, the only inhabited place between Murzuk and Ghat.

(3) The southernmost and largest of the Fezzan *wadis* is the **Hofra**, which contains from W. to E. the following oases: **Murzuk**, **Traghen**, **Umm el Aranib**, **Zawila** and **Temisa**.

SE. of this is an isolated wadi running SE. and SW., with the oases of **Katrun** and **Tejerri** at its ends united by a line of smaller oases. This wadi takes the road from Murzuk to the south.

E. of Fezzan are two or three small isolated oases stretching towards Kufra: viz. **Wau el Kebir**, inhabited by a celibate community of Senussi; **Wau en Namus** (uninhabited); and **Wau es Seghir**, inhabited by Tebu.

The climate of Fezzan is highly continental in character and subject to violent changes of temperature. The mean maximum shade temperature during the summer months is said to be 110° F. at Murzuk and 120° in the desert. In December and early January, on the other hand, the average temperature before sunrise is about 40°–42°, and is often lower than this. On the high parts of the plateau it sometimes freezes and snow has been known to fall. Rain falls very rarely, but when it comes it is violent and sometimes takes the form of a cloud-burst, causing great loss of life and destruction of property. As the houses are in general built of earth, any rain is sufficient to destroy them at least in part.

The effects of the climate on human health are very bad.

This applies especially to Murzuk, which is the most unhealthy place in Fezzan. Malaria is unusually common and severe, attacking the inhabitants no less than visitors. The quotidian and tertian types prevail, and the fever is at its worst in summer and autumn. The prevalence of malaria, at Murzuk at least, is fully explained by the swamps which immediately surround the city. Ophthalmia is general; tuberculosis well known; typhoid, cholera and small-pox are not uncommon; and syphilis, spread by the lax morality of the inhabitants, is rampant.

There is practically no wild vegetation on account of the extremes of temperature. The date-palm is the chief cultivated tree; it is at its best in Fezzan and produces fruit in great abundance and of the best quality. The only other fruit-trees worth mentioning are the fig and the almond. The acacia of Fezzan gives excellent gum. Wheat, barley and millet are the only cereals. The chief vegetables are melons, beans, tomatoes, &c. Tobacco, cotton and indigo are grown on a very small scale.

There are very few wild animals, and these are practically limited to gazelles, antelopes, and foxes. The chief and almost the only domestic animal is the Arabian camel. Cattle are few and very small; they are maintained with great difficulty on lucerne and clover sown specially for fodder, and are imported from the north. Horses are hardly commoner. They are practically unknown among the sedentary tribes, and are only bred on any considerable scale by the nomads. There are a few sheep; some from the north, with wool and fat tails, others, with long thin tail, small head and long silky hair, belong to Tuareg or Tebu breeds. There are also two types of goats: one smooth-haired and thick-set, the other of a slighter build and with long hair. They are not much commoner than sheep.

Pigeons and fowls are also kept.

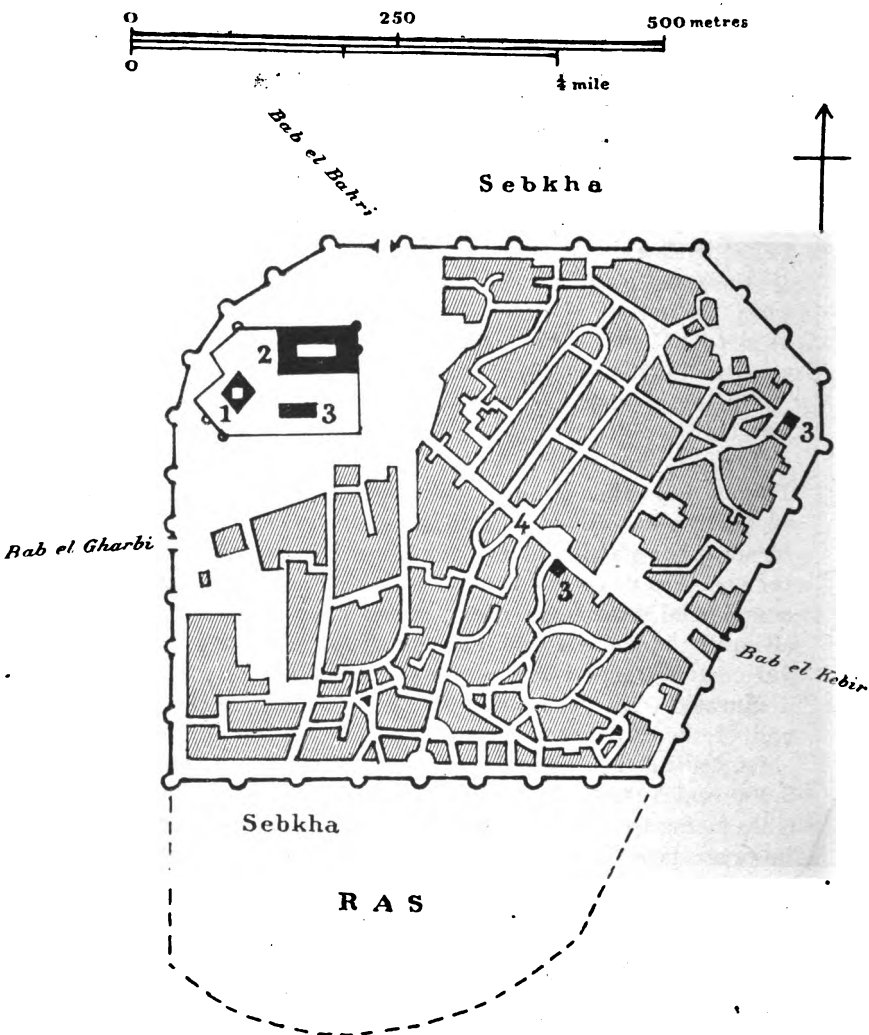
The methods of agriculture, or rather horticulture, are as follows. The description applies primarily to Murzuk, but also with sufficient accuracy to the other oases of Fezzan,

and indeed the methods of Jofra, Sella, Kufra, &c., are not widely different. The gardens are divided into squares or rectangles by means of raised divisions or dykes, and these sections are flooded in rotation for one day at a time. Each section is thus under water on an average for one day a week. Water is raised by man or animal power (at Murzuk generally by donkeys) in leather buckets from the wells, which are 12-50 ft. deep. The buckets, when they reach the surface, spill automatically into irrigation-channels. The deeper the wells, the better, as a rule, the water; but it is less abundant at the low levels. Four harvests of cereals can be obtained yearly; but the last, or last two, are generally used as fodder.

The water-supply of Fezzan as a whole is inadequate and inferior.

The population is mixed. It includes Berbers of Tebu, Tuareg and other tribes; Arabs; Sudanese in an increasing proportion according to the distance southward; and elements from further afield, e. g. descendants of European women taken prisoner by Mediterranean corsairs. Arabic is the universal commercial language; the Tuareg (Tamahek) and Bornu (Kanuri) languages are also in use. The population is variously estimated between 26,000 and 70,000.

Murzuk.—This, the chief town of Fezzan, lies at the western end of the Hofra or southernmost and largest of the three chief wadis. Its population is variously estimated between 3,500 and 7,000. It is approximately square in shape, the sides facing towards the points of the compass; the east side, however, faces ESE. and the NE. and NW. corners are truncated. Outside the S. wall is a semicircular area known as the Ras, once part of the town and still surrounded by traces of the old walls. There are three gates: Bab el Kebir on the east, Bab el Bahari on the north, and Bab el Gharbi on the west. From Bab el Kebir the main street, in which the market is held, runs NW. to the *Kasba* or citadel, which is a large and solid fort of mud and brick, formerly containing a Turkish garrison of 500 men (nominal strength) and armed with six old guns. The two other gates are close to the citadel.



MURZUK (from Nachtigal, 1879).—1. Turkish fort ; 2. Barracks ;
3. Mosques ; 4. Bazar

In the portion of the town to the south of the main street are over 300 houses ; in the northern portion are over 280. The Ras probably contained another 200. The houses are made of earth, and are destroyed when it rains ; this necessitates the rebuilding of the town about once in a generation. The better houses have glass windows, and doors, &c., of walnut ; the others have palm-wood doors and shutters.

The north side of the city is almost entirely bounded by *sebkha*, salt marshes and pools, in the middle of which is a fresh spring. The same type of country prevails on the south. The city thus lies both on and between swamps, which accounts for its extreme unhealthiness.

With these exceptions a belt of sand surrounds the city. Outside this are the gardens of the inhabitants, most of them containing some palm-trees, others figs, pomegranates, almonds and small apple-trees. They all contain cereals and various vegetables.

The inhabitants subsist chiefly on trade. The annual commerce was estimated in 1879 at £50,000 ; and 300,000 camels were believed to pass through it yearly. Since then, however, its commerce seems to have declined, and trade is said to pass more through Ghat. The chief merchants are foreigners, Arabs from Tripoli and Khoms and Berbers from Aujila and Sokna.

A market is held daily in the main street. Camels, sheep, and goats are slaughtered in the morning, and the market is liveliest in the afternoon. Mutton and goat are plentiful. There are practically no fruits except dates, which are abundant and good. A few vegetables are to be had, also bread and palm wine. Oil and butter are imports, and only sold at high prices. There is a considerable trade in textiles, hardware, and ornaments from Europe.

There is a powerful wireless station, and a telegraph to Sebkhah and Umm el Abid ; also a post office.

Ghodwa is the next oasis, NNE. of Murzuk (about 45 miles direct), on the Jofra road. It was formerly a flourishing place with a large output of dates, but has undergone a great decline

and is reported to be only a miserable settlement of a few dozen houses.

Sebkha is about 45 miles (direct) N. by E. from Ghodwa on the Jofra road. It is a marshy hollow at the eastern end of Wadi Lajal, and contains three settlements: Jedid, a walled town with corner towers and some minarets, with 220–250 houses and about 1,500 inhabitants; Karda, with 200 houses, 1,000–1,200 inhabitants; and Hajara, with 100 houses and about 600 inhabitants. Post office, wireless, telegraph Murzuk–Umm el Abid.

Temenhint is about 25 miles NE. of Sebkha, on the Jofra road from Murzuk. It is a small town of 133 houses (800 inhabitants) situated in a grove of date-palms. It was founded by the extinct tribe of Beni Bedr, from whom it passed successively to the Aulad Mohammed and Aulad Soliman. The inhabitants are poor and subsist on horticulture and trade.

Semnu is 6 hours (about 20 miles) E. by N. from Temenhint. It has no walls, but some of its houses are built in part of sandstone, and there is a *kasr*, a square building with corner-towers, thick walls, with galleries and loopholes in the upper story, and an open court in the middle. There are two minarets of no great height.

The town is surrounded by numerous date-palms. It forms an irregular quadrilateral, with its sides towards the four points of the compass. The streets are too narrow for even a single loaded camel.

There are 250 houses, i.e. about 1,200–1,500 inhabitants, partly Murabidiya, partly Arabs, and partly sedentary members of the nomad Mekariha. Formerly the Aulad Soliman had date plantations at Semnu. The inhabitants live mostly on horticulture; they do some trade and a very little cattle-breeding. There are many date-palms, whose fruit is exported to Murzuk; wheat, millet, and barley are grown; in a few gardens there are isolated pomegranate trees or poor vines and figs. The water comes from a considerable depth and is clear and fresh.

Zighen (not to be confused with Zighen in Kufra) lies about 7 miles NNE. of Semnu. It is the last oasis of any importance on the road from Fezzan to Jofra. Beyond it is only the small oasis of Umm el Abid.

It is a small town with ruinous walls, including 150 houses built of a sandy clay. There is a dilapidated *kasr* of the same material. The inhabitants, numbering 800–1,000, are Zeyadin from Foghaa, an oasis half-way between Zighen and Sella on the NE. These are a branch of the Murabidiya. There are also some Mekariha.

The south road from Murzuk leads through the following oases, all lying in Wadi Ekema, which also contains several smaller settlements:

Katrun, at the NNE. end of the wadi, is in the middle of a large palm-grove immediately surrounded by gardens. Its walls are in ruins, and the houses are built entirely of earth. They are, however, kept in good repair. There are 1,500 inhabitants, who are more Sudanese in appearance, clothing, and habits than those of the central and northern Fezzan. The town is surrounded by Tebu (nomad Berber) settlements.

The gardens grow chiefly millet, lucerne, and vegetables; a few vines, figs, and pomegranates; the *Acacia nilotica* is common and grows well. The system of watering is the same as in the rest of Fezzan.

Bakhi, barely 2 hrs. (about 6 miles) from Katrun, resembles it in general characteristics. Population about 600. Water good but cloudy; wells 12–13 ft. deep.

Tejerri. At the SSW. end of the wadi, about 40 miles from Bakhi. North of the town is a strip of *sebkha* (salt marsh) a mile wide or more. The town lies in a basin surrounded by hills, among palm-groves and gardens. The houses are grouped round a large *kasr*, in which every inhabitant has quarters of his own and takes refuge in times of danger. The town is poor and ruinous. The population is about 800, and consists of Murabidiya, Tebu, and Tuareg.

CHAPTER X

COMMUNICATIONS¹

(Roads—Railways—Telegraphs—Wireless—Telephones—Posts)

(1) ROADS

BEFORE the Italian occupation there were practically no carriage roads in Tripoli or Cyrenaica. A few short sections of road had been constructed by the Turks, e.g. the good road from Benghazi to Berka barracks (2 miles). All communication inland was done by means of pack animals, almost exclusively camels. The roads for this purpose are no more than tracks, and in the desert there is generally no visible track at all.

In spite of the absence of made roads, however, motor transport with Ford or other light cars is possible in the desert. In the deserts of Western Tripoli it would probably be less easy, and in the Hammada el Homra it would be impossible, owing to the rocky and semi-mountainous nature of the ground. But in the kind of desert known as *seghir* (gravelly surface) it would present no serious difficulties. Motor transport is also possible over scrub-covered desert, but not over the kind of desert known as *edeyen* or sand dunes. The part most suitable for motor transport is the Libyan desert south of Cyrenaica and towards Egypt. It is also possible to use motors on the steppes of Northern Tripoli, but not in the Jebel, where the ground is mountainous and broken, nor in the Cyrenaican plateau, where it is rocky and intersected by water-courses.

The Italians have organized a system of mule transport in the Tripolitan Jebel, having its base at Azizia, the temporary rail-head, where a dépôt for mules has been constructed. The route runs hence to Bu Gheilan and Gharian.

¹ Cf. footnote at the beginning of chap. viii.

Since the Italian occupation roads have been actively made and improved ; full details are given in Appendix A.

A large mileage of roads has been made or improved in Cyrenaica also. Apart from those in the immediate neighbourhood of towns, the following main roads are reported to exist, but, as details are not available, they have not been plotted on the Route map.

1. Benghazi-Tokra, NW. along the coast, 37 miles.
2. Benghazi-Suluk, ESE., 35 miles.
3. Benghazi-Mikili, E. The first 45 miles E. of Benghazi have been constructed, and 10 miles NW. of Mikili.
4. Tolmita-Merj, S. by E., 15 miles over the mountains.
5. Merj-Tekniz, E. by S., 18 miles.
6. Marsa Susa-Cyrene, SW. about 15 miles, including the windings of a steep ascent up the mountains.
7. Cyrene-Feidia, SSE., 15 miles.
8. Cyrene-Ghegab, SE., 18 miles.
9. Pshara-Mikili, S. by W., about 45 miles (unfinished).
10. Mikili-Tobruk, E. about 100 miles. Begun at each end.
11. Pshara-Derna, ESE. at first and then ENE. down Wadi Derna. Enver Bey's military road ; 30 miles from Pshara to Wadi Derna, which it strikes 10 miles above Derna.

Roads described as suitable for wheeled traffic or motor transport are generally not metalled but ' improved caravan ' roads. Most of the above roads come under this heading, and the list of such roads is continually increasing. It may be expected that before long all the chief routes will be of this kind. Such roads would of course break down under very heavy traffic or in bad weather.

(2) RAILWAYS

Previous to the Italian occupation one short section of railway existed in Cyrenaica (Benghazi, starting near the quarantine station and running SSE. past Sidi Daud) and none in Tripoli. The railways constructed by the Italians fall into two groups, according to gauge. The Italian standard ' colonial '

gauge is 0·95 metre (3 ft. 1½ in.), and the main permanent ways are of this gauge. The other gauge employed is 0·60 metre, Décauville type.

Tripoli.

Lines completed and under construction.—Three 0·95 lines are, in 1916, under construction, radiating from Tripoli to Gharian, Zwara, and Khoms respectively.

1. The **Gharian** line leaves Tripoli SW. along the coast, passing **Ghargaresh** (siding to quarries) at mile 2, and **Gheran** junction (line diverges to Zwara) at mile 9. Turning inland, the line passes the following stations: **Mshasta** at mile 13·6 (blockhouse), **Anjila** at mile 16·5 (blockhouse), **Swani beni Aden** at mile 19·6 (siding), **Miamin** at mile 24 (blockhouse), **Umm el Adam** at mile 28·3 (blockhouse), and **Azizia** at mile 32·7. Beyond Azizia the line was already in 1914 open to **Henshir el Abiad**, and under construction to **Fabbri**, **Hammera**, and **Gharian** at mile 81·7. It reached Gharian in 1915.

2. The **Zwara** line leaves Tripoli as above, diverging from the Gharian line at **Gheran** junction (mile 9). It then reaches **Zanzur** (mile 10·8), and proceeds past **Sayad**, **El Maya**, **Twebbia Ghargusa**, **Zawia**, **Sorman**, and **Ajilat** to **Zwara** (mile 64·8). In 1914 trains were running to Sorman, about mile 39.

3. The **Khoms** line leaves Tripoli eastward, passing the cavalry barracks station (mile 1), **Fornaci** junction, mile 4·1 (with branch southward to **Ain Zara**, mile 6·3), and **Mellaha** (mile 8·7), and reaches **Tajura** (mile 12·6). Hence it is under construction to **Khoms** (mile 75).

The station at Tripoli is in the suburb, not far from the cavalry barracks. There is a shed for rolling-stock and five sidings. Sidings also run from the Ghargaresh line round the north end of the town to the Spanish fort and mole, and in the direction of the bread market.

A military railway, 8½ miles long, runs round the Italian defensive wall and the coast by Fort Hamidie, with sidings to the Esparto jetty and the bread market, and six sidings on the remainder of its length.

A railway of 0·60 metre gauge has been made at Khoms, leading from the harbour to the hills of Lebda ($2\frac{1}{8}$ miles) to carry material for the defensive walls. Another section, $1\frac{1}{2}$ miles long, and connected with the first, runs along the defensive wall.

Time tables.—On the Gharian line trains are timed to run from Tripoli to Azizia in $2\frac{1}{2}$ hrs., and to return in 2 hrs. 10 min. From Azizia to Henshir el Abiad, the railhead in 1914, they are timed to take 1 hr. 27 min., and the same returning. Only one train ran each way daily in 1914.

On the Zwara line 2 hrs. 10 min. are allowed from Tripoli to Zawia, and 37 min. thence to Sorman. Slightly longer times are allowed (48 m., 2 hrs. 23 min.) for the return journey. Two trains ran each way daily in 1914.

On the Khoms line 50 min. each way are allowed between Tripoli and Tajura. (These times all include stops at intermediate stations.) Two trains ran each way daily in 1914.

Lines projected.—The following lines are to be constructed, but surveys had not been completed nor work begun in 1914 :

1. Gharian-Yefren-Rumia-Zintan-Jado-Nalut, 143 miles.
2. Nalut-Sinaun, 77 miles.
3. Sinaun-Ghadames, 93 miles.
4. Gharian-Mizda, 50 miles.
5. Kusabat-Zliten-Misurata, 75 miles.
6. Zliten-Kasr Beni Ulid, 47 miles.
7. Kasr Beni Ulid-Bu Njem-Sokna, 201 miles.
8. Sokna-Brak, 125 miles.
9. Brak-Murzuk, 125 miles.
10. Murzuk-Ghat, 280 miles.
11. Kasr Beni Ulid-Sirte-Ara Philaeni, 298 miles.

Rolling stock at the close of 1913.—15 locomotives. These are tank-engines, compound, 8-coupled, total adhesion.

17 passenger coaches. These are 8-wheeled vestibuled bogie coaches, 1st and 3rd class.

151 trucks and flat cars for goods.

22 tank-trucks to carry water.

Cyrenaica.

Décauville lines.—A system of Décauville railways (0·60 metre gauge) has been constructed in the neighbourhood of Benghazi. Starting from Benghazi station (where there are a locomotive shed, workshops for repairs, with a 12 h.p. engine, carpenter's shop, and quarters for the platoon of engineers responsible for the working of the line), the line divides at Sidi Hussein into three branches as follows :

1. To Benina, $15\frac{1}{2}$ miles, with branch to Fweihat, $1\frac{1}{4}$ miles.
2. To Berka, $1\frac{1}{10}$ miles.
3. To Fort Artesian, 2 miles.

At each station and halt there are sidings and a water-supply.

Four trains a day run to and from Benina, 2 to Berka, and 4 to Fweihat.

The rolling stock in 1914 consisted of 7 locomotives (25 h.p.), 8 passenger coaches, 21 tank-trucks to hold 3 cubic metres each, 15 ditto to hold 1 cubic metre, 90 metal trucks, 153 wooden trucks, 120 flat cars, 8 tenders, and 25 ballast trucks.

At Derna there is a similar system of Décauville lines, of which the chief runs up the Wadi Derna. Other lines have been laid down along the shore of the harbour and in all the chief roads of the oasis.

Standard colonial gauge lines.—Two lines were in 1915 under construction.

1. Benghazi–Lethe–Benina, apparently intended to replace the Décauville line above described. Total length, 14·1 miles.
2. Benghazi–Rejma (6·2 miles).

Information as to rolling stock is not available.

Benghazi station has been built on a scale to accommodate the traffic of the future line to Egypt. The other stations are wooden structures. At Benina a well has been sunk.

Lines projected.—Surveys of the following lines were to be begun at the earliest possible date (authority, Jan. 1915) :

1. Rejma–Merj, 47 miles.
2. Merj–Slonta–Derna, 100 miles.

3. Benghazi-Suluk, 34 miles.
4. Derna-Tobruk, 93 miles.
5. Slonta-Cyrene-Marsa Susa, 31 miles.
6. Suluk-Ajedabia, 56 miles.
7. Ajedabia-Aujila, 137 miles.
8. Ajedabia-Ara Philaeni, 100 miles.
9. Aujila-Jaghbub, 200 miles.
10. Aujila-Kufra, 350 miles.

It is obvious that some of these lines are not likely to be constructed in the immediate future. On the other hand, the rapid development of railways in Tripoli and of motor roads both in Tripoli and in Cyrenaica marks a vigorous and progressive policy, and it was expected in 1915 that the Benghazi-Derna railway would be open by 1919 or 1920.

(3) TELEGRAPHS

A considerable system of telegraph lines was constructed by the Turkish Government, but it was much damaged during the war, and the Italians installed a new system. In 1914 there were altogether 870 miles of line in Tripoli, 24 telegraph stations, and 6 telephone stations. The principal lines radiate from Tripoli as follows :

1. Tripoli-Zawia-Zwara-Ferwa.
2. Tripoli-Azizia-Gharian-Yefren-Nalut.
3. Tripoli-Azizia-Tarhuna-Kusabat-Khoms-Zliten-Misurata-Sirte.
4. Tripoli-Azizia-Tarhuna-Beni Ulid.
5. Tripoli-Tajura-Sidi ben Nur-Kasr Jefara-Kusabat.

There are also direct lines, Zawia-Azizia and Tarhuna-Misurata, and branches to Bir el Ghanem, Kasr el Hajj, Josh, and possibly other places.

In Fezzan a telegraph line runs from Murzuk by Sebkhah to Umm el Abid.

The Turkish line from Tripoli to Derna by Benghazi was seldom in working order for long together, chiefly owing to the failure of the authorities to prevent thefts of wire. This line does not appear to be at present in existence.

The Turkish telegraph system also included the following lines : Khoms-Kusabat-Tarhuna-Beni Ulid : Tripoli-Zanzur-Zwara ; Zanzur-Azizia-Gharian ; Gharian-Yefren-Zintan-Jado-Nalut.

The Turkish line from Benghazi to Derna went inland by Merj and Cyrene. It was the only line in Cyrenaica. It is not known whether the Italians have repaired it. If so, branch lines have probably been made to Tolmita and Marsa Susa, as these ports are undergoing development, and are not known to possess wireless stations.

(4) WIRELESS

The military wireless stations at Tripoli are in the Spanish fort at the base of the mole and on the Via Azizia respectively. Lines of communication here converge from the following directions :

1. Brak-Sokna-Sirte-Misurata-Tripoli.
2. Brak-Sokna-Bu Njem-Beni Ulid-Tripoli.
3. Ghadames-Nalut-Tripoli.

In favourable circumstances Brak can communicate direct with Tripoli (435 miles).

Besides these lines of communication the following stations were (on the authority of the Berne list) open by the end of 1914 : Gharian, Yefren, Khoms, Mizda, Misurata, Zwara, Zawia, Ferwa, Jado, Zliten, Tarhuna, Kusabat, Azizia, Kasr Ahmed, Murzuk, Josh, Bu Ajila, Sidi ben Nur. An Italian official publication in 1914 reports stations at Gharia el Gharbia, Sebkha (Fezzan), Bir Gashifa, and Wadan, but these do not occur in the Berne list for the same year, which also omits the stations of Sirte and Bu Njem.

It is probable that many of these stations (which include every place of any importance in Tripoli and almost all the chief oases) are only fitted with Marconi field apparatus of small power and limited range. Such apparatus was in use during the Turco-Italian war. The following stations are, however, certainly permanent and fairly powerful : Tripoli (2), Misurata, Sirte, Ghadames, Nalut, Mizda, Beni Ulid,

Bu Njem, Gharia el Gharbia, Sokna, Brak, Sebkha, Murzuk.

In Cyrenaica, under the Turkish rule, there was a powerful station at Derna, capable of direct communication with Constantinople. It was damaged by the Italian bombardment, but was afterwards repaired, the buildings enlarged, and improved apparatus installed, so that its range is now increased.

At Benghazi there are two installations of 15 and 1·5 kw. respectively. Merj and Cyrene have 1·5 kw. installations; at Derna and Tobruk the installations are of 5 kw. Four portable 1·5 kw. and three 0·3 kw. installations (camel and mule pattern respectively) are at various points in the interior.

(5) TELEPHONES

The telephone is extensively used in the chief towns, but does not appear to be laid over long distances. In Tripoli there is a military exchange and a separate civil exchange. The former is situated in the governor's palace, Via Azizia. It unites 60 lines, linking up 55 stations and also communicating with the civil exchange, through which it can communicate with 22 other stations. All the principal public buildings are on the telephone, which is for official use only.

The same plan exists at Benghazi.

(6) MOTOR POSTAL SERVICES

These were established over all the trunk roads fit for motor traffic, and will be extended as other roads are improved. The details available are for the end of 1914.

1. **Azizia-Gharian**, daily service with two cars. The schedule time up is 3 hrs. (31 miles), returning in 2 hrs. 45 min. Garage at Azizia.

2. **Gharian-Yefren**, outward Tuesdays and Fridays, return Wednesdays and Sundays. Distance 45 miles, time 4 hrs. each way. Two cars available; garage at Gharian.

3. **Gharian-Nalut**. Sundays and Mondays outward (the journey takes 2 days), return Wednesdays and Thursdays.

Gharian (via Awenia cross-roads and Awenia) to Zintan, 5 hrs.; Zintan to Jado, where the journey is broken, 2 hrs. Next day, Jado-Nalut, 8 hrs. The return times are the same. Two cars available; garage at Gharian. Total distance 186 miles. This service began running June 1, 1914.

4. **Gharian-Mizda.** Outward Fridays, return Sundays. Distance 66 miles, time each way 4 hrs. 30 min. Two cars available; garage at Gharian.

5. **Azizia-Nalut.** Mondays and Tuesdays outward (the journey takes 2 days), Thursdays and Fridays return. Azizia to Bir el Ghanem, 2 hrs. 45 min., return 2 hrs. 25 min. Bir el Ghanem to Kasr el Hajj, where the journey is broken, 4 hrs. each way. Kasr el Hajj to Josh, 3 hrs. 45 min. each way; Josh to Tizi, 2 hrs. each way; Tizi to Nalut, 3 hrs. each way. Three cars are engaged on this service, one between Azizia and Kasr el Hajj, the other two thence to Nalut. Total distance 155 miles.

6. **Tripoli-Zwara.** Outward Mondays and Thursdays, returning Wednesdays and Fridays. Tripoli to Sidi Billal, 1 hr.; Sidi Billal to Zawia, 1 hr. 40 min.; Zawia to Sorman, 2 hrs.; Sorman to Ajilat, 1 hr. 10 min.; Ajilat to Zwara, 1 hr. 20 min. Total distance, 70 miles; two cars available.

7. **Zwara-Bu Kemesh.** Outward Tuesdays and Fridays, return the same days. Zwara to Zelten, 1 hr. 40 min. (return 1 hr. 10 min.). Zelten to Bu Kemesh, 1 hr. 40 min., and return in the same. Total distance, 25 miles; one car available, with garage at Zwara.

8. **Khoms-Zliten,** 26 miles: outward on Tuesdays, return Mondays; time 3 hrs. Garage at Khoms; two cars.

9. **Khoms-Kusabat,** 17½ miles: time 1 hr. 45 min. One car; garage at Khoms.

10. **Zliten-Misurata town,** 35 miles: 3 hrs. 45 min. each way; outward and return on Tuesdays. Two cars; garage at Misurata.

11. **Misurata town-Misurata port,** 7 miles: 30 min. each way. Daily service with one car. Garage at Misurata.

12. **Misurata town-Tawerga,** 28 miles: 3 hrs. each way.

Outward and return on Fridays. One car available ; garage at Misurata.

13. **Sirte-Bu Njem**, 115 miles : 12 hrs. each way. Outward Tuesdays, return Sundays. Two cars available ; garage at Sirte.

14. **Bu Njem-Sokna**, 122 miles : 13 hrs. each way. Outward Wednesdays, return Fridays. The cars are the same as those which serve the Sirte-Bu Njem route.

The cars which serve the Azizia-Gharian route are described as powerful F.I.A.T. vans with double rear wheels. It is probable that the same type has been adopted for other routes. In some cases, e. g. between Sirte and Sokna, where no road has been constructed, the service probably consists of light cars.

APPENDIX A

ROUTES ¹

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17 (A). Bir Osia—Bir Ahsen—Bir el Ghanem	289
18. Zawia—Bir el Hamra—Bir el Ghanem—Biar Fassa—Yefren	290

¹ Appendix A consists (1) of a translation of the official Italian *Manuale itinerario della Tripolitania*, 1914. In translating, this has been checked as far as possible; e. g. cross-references and points of the compass, which were very often wrong, have been corrected, and errors in the addition of times have been corrected except on pp. 249, 448, where it is uncertain what the correction should be; (2) supplementary routes have been added, viz. routes not given in the *Manuale* but accessible in other sources; see p. 468.

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The information on which these routes is based was obtained from reconnaissances, route reports, and other sources, checked and co-ordinated as occasion offered. In the case of the few routes not yet travelled over, but inserted in order to render complete, at least in its general lines, the description of the roads of this region, the sources of information have been indicated.

In using this manual certain warnings must be kept in mind :

1. *Roads.* The meaning of 'road' (except in the case of constantly used main roads) is somewhat different with the natives and with us, especially in the plain country, which can frequently be traversed in any direction. The way from one place to another is determined by the supply of pasturage, and more especially of water, to be found at any particular moment in the region to be traversed. This explains the discrepancies in the information about the practicability or existence of any given route.

Only those routes which have actually been traversed by wheeled traffic are described as 'fit for wheeled traffic', but the practicability of the roads depends, much more than in Europe, on the season. *Sebkha* country in the dry season offers as good going as can be desired in every direction; during the rains it is often absolutely impracticable. The same is true of the wadi beds (whether from the point of view of crossing or ascending and descending them). The sandy zones are in the dry season an insurmountable obstacle for wheeled traffic and difficult for animals and pedestrians.

Finally it must be remembered that the continuous improvement of old and construction of new roads lead to important changes in the information collected in this book.

2. *Water*. The supply of water depends very largely on the season, but the state of the wells and cisterns may be greatly influenced from one time to another by other factors (e.g. the recent passage of caravans, the presence of nomad tribes, &c.), while there are frequent cases of the abandonment, filling up, improvement, or sinking of wells.

3. *Terrain and vegetation*. The notes on the vegetation, and especially the cultivation, near the road refer, for the most part, to only momentary conditions. They indicate what may be found, not what always will be found.

4. *Population*. The information about the inhabitants was got from local residents. Where this failed, it was got from the last census and therefore refers to conditions before the Turco-Italian war.

Where this manual disagrees with the 'Schizzo dimostrativo della Tripolitania Nord Occidentale', 1 : 200,000, or the 'Schizzo dimostrativo delle comunicazione della Trip.', 1 : 400,000, it corrects or amplifies them.

ROUTE 1

TRIPOLI—SIDI BEN NUR—KHOMS

Moderate road. Sandy from the 6th to the 7th hr. except for the stretch beyond Sidi Ben Nur, between the 12th and the 15th hr. (which can be avoided by Route 1 A, which is $6\frac{1}{4}$ m. longer), the road is practicable for carts and motors. It never goes more than $3\frac{3}{4}$ m. from the coast, and is nearly always accompanied by the telegraph line. After a heavy rainfall, the road often becomes impassable for heavy wheeled traffic.

Hours	
Inter- mediate	From Tripoli
3 45	3 45

TRIPOLI (SPARTO PLACE)—SIDI EN NAFFATI.

For Tripoli, see pp. 134-140.

Level oasis, with many wells of good water. Cultivation of all kinds.

The road is passable for wheeled traffic of all sorts. It leaves Tripoli under the name of Shara Zarriet el Dahmani, to the N. of Dahra, following the coast-line for a few mins. ; after passing the mill of **Hassan** it proceeds due E., keeping to the right at the fork. 2 hrs. from Tripoli it passes **Suk el Juma** (Friday market) which is the capital of the mudiria of the Sahel. Suk el Juma has a Royal Carabineer station, a residence, a number of fonduks and scattered houses, and a covered market round a large square. About 330 yds. to the N. lies the large village of **Amruss**, where there is good water. At $1\frac{1}{2}$ hrs. from Suk el Juma the road follows the northern edge of the oasis, leaving to

Inter- mediate	Hours	From Tripoli	
			<p>the E. the great salt marsh of Mellaha (100 acres).</p> <p>Sidi en Naffati is a marabut situated on a hillock, to the N., 25 ft. high.</p> <p>The Tripoli oasis comes to an end 10 mins. farther on.</p>
1 0	4 45		<p>SIDI EN NAFFATI-TAJURA.</p> <p>Country as above. A short belt of sandy hills separates the Tripoli oasis from that of Tajura. There is thin scrub outside the oasis.</p> <p>Road as above. It enters the oasis of Tajura after 25 mins., near the hamlet of Bir Lashehar, with a marabut and a cemetery to the N. of the road. At the fork after Bir Lashehar, keep to the right.</p> <p>For Tajura see p. 141.</p>
1 45	6 0		<p>TAJURA TO THE BRIDGE OVER THE SGAIRUM.</p> <p>Road, country, and vegetation as above. There are rushes in the Wadi Sgairum.</p> <p>30 mins. to the E. of Tajura the road forks, one branch proceeding to the railway station of the same name, which is 15 mins. to the S. The other branch continues to the village of Teshani, 30 mins. E. of the fork on the northern side of the road. The masonry bridge over the Wadi Sgairum is 550 yds. S. of the village of Dakla, on the eastern edge of the Tajura oasis. 30 mins. to the N. is the promontory of Ras Brambak, with a lighthouse. 10 mins. to the S., near the fortified mound of Ras Gasem, 2 good wells have been bored.</p>

Hours	
Inter- mediate	From Tripoli
5 45	11 45

FROM THE BRIDGE OVER THE SGAIRUM TO SIDI BEN NUR.

The ground is sandy, and there are numerous high and extensive shifting sand-hills, which are impracticable. There is thin scrub and some pasture during the rainy season.

The road is practicable for wheeled traffic, although, owing to the sand, it is somewhat difficult for the last two hrs. After $1\frac{1}{2}$ hrs. the road reaches the two wells of **Bir Argub**. One of these wells has a good and abundant supply of water. It then runs shut in between high and firm sand-hills, until it reaches the tombs and the isolated marabut of **Mjahedin**, which is near the sea ($4\frac{1}{2}$ hrs. from Sgairum). Branch road, practicable for wheeled traffic, goes S. to Kasr Karabuli, indicated by a post with the number 1, at 5 hrs. 25 mins. from Sgairum. Road immediately after crosses the Wadi **Ramle**. This wadi contains water throughout the whole year, but is always fordable. To the S., the wadi runs enclosed between high banks, which are covered, as in the bed, with thick rushes.

At **Sidi Ben Nur** there is a marabut and a large fonduk situated on high sand-hills 550 yds. from the sea. There is also a well with an abundant supply of good water. Station of the Royal Carabineers and garrison.

Hours		
Inter- mediate	From Tripoli	
2 30	14 15	<p>SIDI BEN NUR TO THE WADI MSID.</p> <p>Vegetation as above.</p> <p>The road is sandy and impracticable for wheeled traffic. This goes by the newly made road, which always has a firm bottom, and turns off before the Wadi Ramle leaving the sandy belt along the shore to the N. (see Route 1 A).</p> <p>The Wadi Msid in this last stretch has a perennial supply of drinkable water, which rises from an abundant spring in a basin, surrounded by high sand-hills near the sea; here it makes a channel through a small fertile but uncultivated oasis with low palms; an excellent camping-place.</p>
3 30	17 45	<p>THE WADI MSID—FONDUK EJJASH (FONDUK JEFARA).</p> <p>The ground is undulating and somewhat sandy for the first hr., but it is always firm. This is the very fertile Jefara region. Small oases and gardens containing good wells are numerous throughout the whole region, but especially to the N. Among these the group called Fers is important, to the NE. of the first section of the road. There is some pasture and fields of barley.</p> <p>The road is with difficulty passable by wheeled traffic, owing to the sandy nature of the ground. It improves as it gets farther from the sea and ascends slopes, crossing steep-sided wadis.</p> <p>40 mins. from Wadi Msid a road branches off from the carriage-road towards the S. to Kasr Karabuli (see Route 1 A).</p>

Hours	
Inter- mediate	From Tripoli

At 1 hr. 10 mins. from the fork the road crosses the Wadi **Tergurt**, which has three wells of good and abundant water in the bed. On its r. bank there is a small oasis S. of the road.

The Arbia and Tergurt wadis have water throughout the whole year near the mouth, and a gravelly bed.

At **Ejjash**, 15 mins. to the E. of Wadi Arbia, there are some fonduks by the side of the road, also four wells of good water.

Road branches to the S. to Kasr Jefara (Hiear), which is 30 mins. off, and consists of a fort on an elevation which dominates the Jefara plain. It has been restored and enlarged for the accommodation of troops. There are some houses, cisterns, and wells of good water in the neighbourhood.

A road branches off N. to Marsa Zira, a small port for boats, 1½ hrs. away.

2 30	20 15	FONDUK EJJASH (JEFARA)—FONDUK HALUS.
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Ground is flat and earthy with rocky outcrops in places. There is barley under cultivation. Some gardens. Poor pasturages, scattered bushes and clumps of olive-trees are passed.

The bottom of the road is firm. It crosses the gravelly beds of various wadis enclosed between steep and broken banks.

Fonduk Halus on the N. side of the road, a little W. of Wadi Selma, has a well of good and abundant water. There are also other wells which supply water for animals. There is another house on the S. of the road.

Hours	
Inter- mediate	From Tripoli
3 30	23 45

FONDUK HALUS—FONDUK NUKASA.

Road is flat and good for wheeled traffic for some miles. Afterwards it travels over uneven ground, becoming difficult for wheeled traffic, especially after rains.

1 hr. from Fonduk Halus is the Wadi **el War**, in the bed of which there are some gardens and wells. 40 mins. to the E. of Wadi el War is Wadi **Gherrim**. Near this wadi, 10 mins. to the N. of the road, are the Swani Gherrim, where there are good wells. 15 mins. to the E. of the Wadi Gherrim the road passes Wadi **Kham el Dweda**. About $\frac{1}{2}$ m. S. of the road is Fonduk **Dagareb**, with some gardens and a marabut. The surrounding country goes by the name of **Ejjigaia**.

The **Fonduk Nukasa** lies to the N. of the road in a depression channelled through by the Wadi Ramina. There are several wells of good and abundant water and a small oasis.

5 0 28 45

FONDUK NUKASA—KHOMS.

There is some scanty scrub and bushes along the first section of the road. Towards Khoms there are some fields of barley and olive-groves.

The caravan road continues more to the N., near the sea, and passes by **Kasr Turat**. The road, for wheeled traffic, becomes rather difficult. It penetrates through a rocky and hilly region, very broken and cut up by the winding gravelly bed of the Wadi **Ramina**. It continues on the level towards the Mergheb.

Hours	
Inter- mediate	From Tripoli

There are ruins of Roman forts on the various summits. 1 hr. from Khoms is the fortified hill of the **Mergheb**. There is a well of good and abundant water on the road. Towards the SW. is a branch road to Kusabat. Road enters Khoms (p. 141) by the Mergheb gate.

ROUTE 1A

SIDI BEN NUR—KASR KARABULI—FORK OF THE MSID-JEFARA ROAD

A made road, practicable throughout for carts and motor cars.

Hours	
Inter- mediate	From Sidi Ben Nur

1 30

1 30

SIDI BEN NUR—BIR KETNA.

The road passes over a flat strip shut in between sand-hills that rise to a height of about 50 ft. In the Wadi Ramle there are rushes and scrub. Farther on there is some pasture land and fields of barley.

The road bottom is firm. The road is from 3 to $3\frac{1}{2}$ yds. wide. It leaves the coast a few mins. to the W. of Wadi **Ramle**, and follows the wadi for 45 mins., crossing its bed three times with gradients of less than 7 per cent. The remaining part of the road is flat. After 30 mins. there is a spring of drinkable water in the bed of Wadi Ramle. The path which leads to it is indicated by a sign-post with the number 2.

Hours Inter- mediate	From Sidi Ben Nur	
		<p>Bir Ketna lies 15 mins. to the N., in the large flat region of the Hag Mansur kabila. It has a good and abundant supply of water.</p>
4 0	5 30	<p>BIR KETNA-KASR KARABULI.</p> <p>For the first 30 mins. road crosses a narrow plain shut in by sand-hills. The plain then extends considerably farther towards the S. with slight undulations. There are some groups of gardens with wells of good water which are 45 mins. to the W., and in the last 3 m. along the roadside. Amongst these el Fitia and el Gadi are important. They are situated to the N. with groups of houses (3 hrs. 10 mins., and 3½ hrs. from Sidi Ben Nur).</p> <p>Road as above. 4 hrs. from Bir Ketna it crosses the Wadi Msid, where is a stretch of 30 yds. with a gradient of 10 per cent. (1 in 10).</p> <p>There are groups of gardens (intensive cultivation) at Karabuli; also some houses, a fort, a fonduk, a large market square, and seven wells of good and abundant water.</p>
0 30	6 0	<p>KARABULI TO THE FORK OF THE WADI MSID—JEFARA COAST ROAD.</p> <p>Road, ground and vegetation as above.</p>

ROUTE 2

TRIPOLI—TAJURA—BIR MZRAM—AIN SHERSHARA
—TARHUNA

(Ramle Road)

This road for the most part is not practicable for wheeled traffic. It crosses the region of the dunes to the S. of the Tripoli oasis, and thence runs along the upper bed of the Wadi Ramle.

Hours		
Inter- mediate	From Tripoli	
4 45	4 45	TRIPOLI—TAJURA. See Route 1.
2 30	7 15	TAJURA—BIR FARES. Ground is sandy and very undulating. There is a good deal of scrub and a few bushes, also some pasture. It is a caravan road, practicable for wheeled traffic on most of this stretch. Its bottom is fairly firm, and it hardens after the rains. Bir Fares lies to the E. It has a depth of 65 ft. Water is good and abundant.
3 0	10 15	BIR FARES—BIR MZRAM. On this stretch there are dunes. Vegetation as above, but more scanty. The caravan road has a sandy bottom and is impracticable for wheeled traffic. Half-way the road passes Bir Tallian , which lies to the E. with an abundant supply of indifferent water. 2½ hrs. from Bir Fares there is a branch road going NW. to Bir Tutek.

Hours		
Inter- mediate	From Tripoli	
		<p>Bir Mzram lies to the E. It is about 130 ft. in depth. Water is plentiful and good, though it is often made turbid by the sand.</p> <p>1 hr. to the E. of Bir Mzram is said to be Bir Granat or Nefad, with an abundant supply of water better than that of Mzram.</p>
5 30	15 45	<p>BIR MZRAM—FUM EL WADI RAMLE ('MOUTH OF W. RAMLE').</p> <p>Beyond a short stretch which is still sandy, the ground is hard, earthy, and level. It becomes stony near the foot of the plateau. There is some scrub and small jujube-trees. Part of the country is cultivated with cereals.</p> <p>The caravan road is good with a firm bottom. It is practicable for wheeled traffic. After $2\frac{1}{2}$ hrs. it leaves to the E. 3 cisterns, one of which has a good and relatively abundant supply of water.</p> <p>At the broad Fum el Wadi Ramle there is a well (or cistern) called Bir Sware.</p> <p>A branch road goes NE. to old Bir Ruaja. This road follows the Wadi Ramle. After 1 hr. some cisterns are passed near the road in the bottom of the wadi.</p>
1 0	16 45	<p>FUM EL-WADI RAMLE TO THE DIGHE ROMANE ('ROMAN DIKES').</p> <p>The bottom of the valley, which is nearly $\frac{3}{4}$ m. wide, is stony. The western slope, which is rather steep, descends in rocky steps. The eastern slope has in many places series of gravel landslips. There are numbers of isolated palms, shrubs, and various bushes.</p>

Hours	
Inter- mediate	From Tripoli

Some parts of the plain are cultivated with cereals. There is esparto grass on the high ground.

Road as above, but somewhat stony, and it ascends slightly.

The ruins of the **Dighe Romane** are near the eastern bank of the Ramle and are close to the rocky base of Mt. Bu Twil.

3 0	19 45	DIGHE ROMANE—KASR TARHUNA
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As the valley gets narrower, the slopes become less high and less rugged, until they become low and gentle undulations. Vegetation as above. It is thickest where the wadi widens out, and especially in the little Ain Shershara valley, and in the small hollow where its waters joining those of the Wadi Ramle form a swamp.

The caravan road is scattered with stones and blocks of granite. It keeps to the bed of the Ramle for $1\frac{1}{2}$ hrs., after which it leaves it and passes several times from one bank to the other. From this point the Ramle has water throughout the whole year, which rises from the abundant spring of good water called **Ain Shershara**. This spring is at the head of a short affluent which runs into the Ramle at the foot of a hillock, crowned by the Roman ruins called Kasr Shershara (2 hrs. 10 mins. from the Dighe Romane). After Shershara, the road improves and joins the Wadi Milga road (Tarhuna-Tripoli). For Tarhuna, see p. 156.

ROUTE 3

TRIPOLI—JAMA EL KUOI—SUK EL HAAD—
(TARHUNA)

The road is practicable for light wheeled traffic. It has not been travelled by Italian infantry detachments.

Hours		
Inter- mediate	From Tripoli	
2 15	2 15	TRIPOLI (SPARTO PLACE)—JAMA EL KUOI. The ground is level and consists of uninterrupted oasis. The road is practicable for wheeled traffic. It runs in a general E. dir., traverses Dahra , and passes by Jama Feshlun after 30 mins. The road leaves Tripoli by the Henni gate (50 mins.) near the Henni hill, and then turns to the right at the fork. Subsequently the road goes N. of and near the villages of Ben Said (1 hr. 25 mins. from Tripoli) and Harat Nishauna (15 mins. from Ben Said); after which it turns S. for a few yards. It then passes Bugrara (5 mins. from Nishauna), which has a large cemetery by the road. There is a range of sand-hills to the S. Five mins. from here at the fork the road turns to the right. Jama el Kuoi is a mosque situated in the SW. corner of the meeting-place of four roads. There are only a few houses at this place.
3 0	5 15	JAMA EL KUOI—BIR TUTEK. The ground is undulating, and there are some sand-hills. It is on the whole hard. Some thin scrub.

Hours	
Inter- mediate	From Tripoli

The road is sandy in many places. It turns SW. until it reaches Suk el Haad. After 40 mins. it leaves the Tripoli oasis at **Sania Breha** (an isolated garden).

Bir Tutek (also called Tlata Tutek, after three mulberry-trees which were there at one time), is a large well, about 100 ft. in depth, with an abundant supply of moderate water.

2 0 7 15 BIR TUTEK—KEL ER RUM WELLS.

Road and ground as above. There are a few *gandur* bushes.

The two wells of **Kel er Rum** (which is the name of the country side) are on either side of the road. The water from these wells is good, but not very abundant.

1 0 8 15 KEL ER RUM—GOTEDDIS.

Road and vegetation as above. There are some dunes in this region.

At **Goteddis**, in a small salt marsh, there are two fonduks to the right of the road. Also several wells with a scanty supply of water.

4 0 12 15 GOTEDDIS—BIR EL KREJI.

Road and vegetation as above. There are some dunes for the first 2 hrs.; the ground is hard and gently undulating for the rest of the way.

After 3 hrs. the road passes the marabut of **Sidi Ben Noarria**, on a hillock, about 100 yds. to the E.

Bir el Kreji is a well about 130 ft. deep.

Hours		
Inter- mediate	From Tripoli	
		It lies to the E., and has an abundant supply of slightly saline water.
1 15	13 30	BIR EL KREJI—SUK EL HAAD. The ground is level, hard, and somewhat stony. The road is free from sand. There are some <i>gandur</i> bushes, fields of barley in some stretches; some pasture.
5 15	18 45	SUK EL HAAD—TARHUNA. See Route 4.

ROUTE 4

TRIPOLI—AIN ZARA—SUK EL HAAD—TARHUNA

(Sert road)

This is a good caravan road, but not practicable for wheeled traffic. This route is hardly practicable during the rainy season. In the Wadi Sert it is liable to sudden floods, which are, however, of short duration. This is the shortest road to Tarhuna.

Hours		
Inter- mediate	From Tripoli	
0 40	0 40	TRIPOLI (BREAD MARKET)—BEN GASHIR GATE. See Route 5.
2 5	2 45	BEN GASHIR GATE—AIN ZARA. The ground is sandy. To the SW. there is a broad marshy depression, interrupted by dunes, in which the waters of the Mejenin lose themselves. The vegetation consists of scrub, tall grass, and pasture-land.

Hours		
Inter- mediate	From Tripoli	
		<p>The road is practicable for wheeled traffic. It skirts the south-western edge of the Tripoli oasis, passing the Agricultural college on the l. after 30 mins. The road is accompanied the whole way by the railway, which crosses it at the Fornaci fork (1 hr. 20 mins. from Ben Gashir gate).</p> <p>At Ain Zara there is a fonduk, also two bored wells of good and abundant water. Railway terminus. Garrison.</p>
4 0	6 45	<p>AIN ZARA—TRAB RBEA.</p> <p>The ground is marshy for the first $1\frac{1}{4}$ hrs., with high grass and rushes and occasional palm-groves and meadow-land. Afterwards there are dunes with rocky and flat stretches, and some scanty scrub. For the last $\frac{1}{2}$ hr. there is another marshy tract, which the road avoids by a wide sweep to the W.</p> <p>The road is not practicable for wheeled traffic. It passes over some marshy ground for nearly a mile and skirts the 3 marshes of Ain Zara, which lie to the E.</p> <p>At Trab Rbea the road enters the wadi of the same name.</p> <p>Trab Rbea is a small house, with shops and a cistern.</p>
4 30	11 15	<p>TRAB RBEA—BIR BODHBÁA (BEDBA).</p> <p>The ground is generally covered with dunes, and is difficult to cross. It becomes firmer in parts and near Bir Bodhbáa. [There is some scrub and small jujube-trees.</p> <p>Road as above. It follows the Wadi Rbea (Sert) for $2\frac{1}{2}$ hrs. The road runs in many places in the bed of the wadi.</p>

Hours			
Inter- mediate	From Tripoli		
			<p>Bir Bodhbáa lies to the W. in a grassy depression without dunes. It is 50 ft. in depth, and has good and abundant water, and some drinking-troughs. In the vicinity of the well are 7 caves. There is some pasture, also shrubs suitable for firewood. Bir Bodhbáa is the only point along the road which is suitable for a halting-place.</p>
2 0	13 15	BIR BODHBÁA—SUK EL HAAD (FUM EL WADI SERT).	<p>The ground is level, hard, and inclined to be stony. There are numerous small jujube-trees, and various kinds of bushes.</p> <p>The road is firm, and free from sand. After 1 hr. 20 mins. it crosses the Wadi Rbea (which takes the name of Sert) at a point where the cistern of Sheikh Mabruk is situated.</p> <p>Suk el Haad is at the mouth of the wadi, where it opens out into the Sert plain. This place has two houses and some shops by the side of the road. There are also cisterns and some vines and other fruit-trees. Shrubs suitable for firewood are abundant. There are other cisterns at the foot of the spurs of Kashem el Marauf. The Tripoli-Jama el Kudi-Bir Tutek caravan route described in Route 3 comes to an end at Suk el Haad.</p>
3 15	16 30	SUK EL HAAD—SIDI SLEMA.	<p>The ground is rocky in parts. It is cultivated in many places, and there are gardens with palms, figs, olives, vines, pomegranates, &c., on the slopes, and along</p>

Hours	
Inter- mediate	From Tripoli

the Wadi Halek, from the houses of Sidi Ben Hama to its confluence with the Sert, the wide bed of which is cultivated with cereals.

The road bottom is firm and gravelly. Road follows the bed of the Sert, which is enclosed between gentle slopes, and gets narrower upstream.

Sidi Slema is a marabut, lying 10 mins. to the W. of the road on the top of an elevation. Facing this marabut, and 15 mins. from the road, on the opposite slope, is the other marabut of Sidi Bu Bleg. There are gardens surrounding both these marabuts.

2 0	18 30	SIDI SLEMA—KASR TARHUNA.
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Vegetation as above.

The caravan road is difficult. It leaves the bed of the wadi, and passes many times from one slope to the other. It leaves to the NE. the houses of **Saniet el Megadini** (35 mins. from Slema). There are gardens in the bottom of the valley, and a well (or cistern) of abundant water in the bed of the Sert. After passing the road leading to Miji (45 mins. from Slema), the road narrows into a difficult track, halfway up the hillside, in order to pass through the defile near the springs of the Sert, 10 mins. to the N. of which is the 'marabut of **Sidi Botsi**, on a wooded eminence.

From this point the road becomes better, and runs between earthy hillocks, which are separated by small wadis. Road then descends gently into the Tarhuna depression.

For Tarhuna, see p. 156.

ROUTE 5

TRIPOLI—FONDUK BEN GASHIR—FONDUK ESH
SHERIF—ABIAR MILGA—TARHUNA

This road is good and practicable for motor cars. It is somewhat tiring until it reaches Fonduk Ben Gashir, as it is liable to be blocked with sand in the summer and to be flooded in the winter. Between Fonduk Ben Gashir and Sidi Saya, there is a short cut, impracticable for wheeled traffic, which saves $1\frac{1}{4}$ hrs. and passes by Bir Zakim and Fonduk Erkade. In the Milga valley, the road is liable to sudden floods, which are of short duration. There is a direct mule-track between Abiar Milga and Tarhuna, which saves about $\frac{1}{2}$ hr.

Hours		
Inter- mediate	From Tripoli	
0 40	0 40	TRIPOLI (BREAD MARKET)—BEN GASHIR GATE.
		The made road crosses the oasis, which is flanked by villas, gardens, and a few mosques. It leaves the cavalry barracks to the W. Keep to the r. at the fork outside the gate.
2 50	3 30	BEN GASHIR GATE—KHALLET EL BRAMBAH.
		The surrounding country has many sand-hills and is impracticable. There is some scanty scrub, and during the rainy season there is pasture.
		The road bottom is hard. For 1 hr. the road crosses a depression in which the Wadi Mejenin loses itself. Afterwards it runs along the bed of the wadi, which is shut in between low sandy hills.

Inter- mediate	Hours From Tripoli	
		Road passes Khallet el Brambah , where there is a well 10 ft. deep, with good but not very abundant water, and a marabut on a hillock 650 yds. to the W.
1 15	4 45	KHALLET EL BRAMBAH—FONDUK BEN ON. Road, ground and vegetation as above. At Fonduk Ben On there is a fonduk and a well 50 ft. deep $\frac{1}{2}$ m. to the W. There are two gardens to the E. beyond the dune.
2 30	7 15	FONDUK BEN ON—FONDUK BEN GASHIR. Road, ground and vegetation as above. Bir Hamruni lies to the W. at half-way. There is a house near by. $2\frac{1}{4}$ hrs. from Fonduk Ben On the road leaves the Mejenin to the E. Fonduk Ben Gashir , 1,100 yds. W. of the Mejenin, is situated in a flat district between the dunes. It has several fonduks, gardens with palms, and several wells of excellent and abundant water. Numerous other gardens in the surrounding district. Road for wheeled traffic forks to the WNW. to Swani Beni Aden. To the SE. is the caravan road to Sidi Saya. There is a Royal Carabineer station at Fonduk Ben Gashir.
1 30	8 45	FONDUK BEN GASHIR—FONDUK ESH SHERIF. The ground is generally level, with a few small hills and dunes on the banks of the Mejenin. Scanty scrub and pasture. The road bottom is hard. Road is practicable for wheeled traffic. It keeps 1,000 to 1,500 yds. W. of the Mejenin. 15 mins.

Hours	
Inter- mediate	From Tripoli

from Fonduk Ben Gashir and about 40 mins. to the W. are the **Swani Kweli**, where there are various wells of good water. 15 mins. on and 35 mins. to the E. is the marabut **Sidi Kiam**, on a small hill. From here the road runs between a succession of small gardens. There is one garden worth mentioning, with a well of good water, W. of the road, 50 mins. from Fonduk Ben Gashir, and another to the E., 1,500 yds. beyond the Mejenin, with some palms and various wells and houses (Swani Ben Sherif).

Fonduk esh Sherif is a fonduk to the W. of the road, beside which, to the N., is a well of good water and an isolated mulberry-tree. There is another well within a short distance. A marabut's tomb lies 650 yds. to the W. There are also many gardens with wells in the neighbourhood. The depth of the wells in this region varies from 50–55 ft.

0 45	9 30	FONDUK ESH SHERIF—BIR TUTEK (SUK ESSIBT).
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The ground is slightly undulating, with permanent and shifting dunes. There is a number of jujube-trees, which, however, do not obstruct the field of vision.

Road as above. 35 mins. from Fonduk esh Sherif, branch road to Suk Essibt and Gharian.

Bir Tutek, between two isolated trees to the W., has a good and abundant supply of water at a depth of 85 ft. There is also an abandoned fonduk, 650 yds. to the W.

Suk Essibt (Saturday market) has some caves and booths for the market.

Inter- mediate	Hours	From Tripoli	
			<p>To the E. there is a house which has been partly buried by the shifting dunes.</p>
4 0	13 30		<p>BIR TUTEK (SUK ESSIBT)—SIDI SAYA.</p> <p>Ground and vegetation as above. There are numerous shifting dunes to the N. of the road.</p> <p>Road as above. After 15 mins. it crosses the Mejenin, and after $1\frac{1}{2}$ hrs. it enters the bed of the Wadi Kerwa, which it follows for about 3 hrs.</p> <p>Sidi Saya has a marabut and a deep well of good and abundant water. Two other wells SW. and NW. (Bir Tahl) of the marabut. Both these wells have an uncertain quantity of water. There is an extensive region of dunes to the NW.</p> <p>Caravan roads branch off N. to Bir Tobras and Ain Zara, E. to Bir Tennin, $2\frac{1}{2}$ hrs. away.</p>
2 30	16 0		<p>SIDI SAYA—MOAJEN MABRUK.</p> <p>Ground formed of detritus, somewhat stony. Vegetation as above.</p> <p>The road bottom is hard and stony.</p> <p>The 4 cisterns of Moajen Mabruk are in the bed of the Kerwa. The road rejoins the bed of this wadi, which it follows for a short space.</p>
2 0	18 0		<p>MOAJEN MABRUK—FUM MILGA (MOUTH OF WADI MILGA).</p> <p>Road and vegetation as above. The ground is inclined to be hilly and pebbly near the edge of the plateau.</p> <p>The Fum Milga is about $\frac{3}{4}$ m. wide.</p>

Hours		
Inter- mediate	From Tripoli	
2 30	20 30	<p>FUM MILGA—ABIAR MILGA.</p> <p>Jujube-trees and <i>gandur</i> grow on the sides of the mountains, especially in the lower parts, tufts of esparto grass higher up.</p> <p>Road ascends gently. It runs along the bottom of the valley, often crossing the bed of the Milga and in places following it. The bed is deeply cut in by stony ground. The broken slopes become less steep as they rise.</p> <p>At Abiar Milga the valley turns E. between low and gentle undulations. There are three shallow wells or cisterns, with good and abundant water, on the road. Also a small spring to the N. of the road in the low ground.</p> <p>A branch road practicable for wheeled traffic goes W. to Azizia.</p>
0 30	21 0	<p>ABIAR MILGA TO THE WADI GABER WELLS.</p> <p>The ground is undulating. Vegetation as above.</p> <p>The road ascends a small elevation at a gentle slope, leaving the Milga valley and going into that of the Gaber, which is an affluent of the Milga.</p> <p>There is a small house on the road, 10 mins. from Milga. It is used as a store and market-place (Suk el Kamis).</p> <p>There are three wells, and a small spring of good and abundant water in the Wadi Gaber, near an isolated palm.</p>
1 30	22 30	<p>THE WADI GABER—MIJI.</p> <p>The ground is level and bare.</p> <p>Road as above.</p>

Hours	
Inter- mediate	From Tripoli
2 0	24 30

Miji has 13 wells of good and abundant water.

MIJI—KASR TARHUNA.

Road, ground, and vegetation as above.
For Tarhuna, see p. 156.

ROUTE 6

TRIPOLI—SWANI BENI ADEN—AZIZIA (KEDWA)— GHARIAN

This is a road fit for wheeled traffic. It is a made road for the greater part of its length. As far as Swani Beni Aden motor-cars find it preferable to go by Zanzur, leaving the Tripoli—Zawia road (see Route 11) at the four cross-roads, SW. of the Zanzur station, and from there continuing on the Zanzur—Swani Beni Aden road (see Route 12). That route is less muddy in the winter, and less sandy in the summer. In the section between the 8th and 16th hrs., during the heavy rains, the road is liable to be slightly flooded. This, however, does not hinder the passage of the cars.

Hours	
Inter- mediate	From Tripoli
0 40	0 40

**TRIPOLI (BREAD MARKET) TO THE AZIZIA
GATE.**

This stretch is the southern part of the Tripoli oasis. Water is plentiful. Ground fertile and well cultivated.

This is a made road with a firm bottom.

Shara Suk el Htab is entered, and the wood market (Suk el Htab) having been

Inter- mediate	Hours From Tripoli	
		left to the W., the road turns soon after in the same direction, entering Shara el Bey . After 20 mins. the road crosses the railway, leaving the village of Bu Menjil to NW. 10 mins. later, road turns to the SW. leaving to the S. the branch road to Bu Meliana, where there is a Royal Carabineer station.
2 45	3 25	<p>THE AZIZIA GATE—FONDUK TOKAR.</p> <p>The ground is more undulating to E. than to W. There are many stretches of sand-hills in this section. Scanty scrub; pasture during the rainy season.</p> <p>The road is somewhat sandy. This is especially the case in the 8th hr.¹</p> <p>Fonduk Tokar lies to the W. on the road. It is situated in an enclosure, in which there is also a well with a small supply of indifferent water.</p>
0 35	4 0	<p>FONDUK TOKAR—FONDUK MAGUZ.</p> <p>The ground is level. Vegetation as above.</p> <p>The road bottom is firm. There is a fonduk and a well with a scanty supply of water at half-way.</p> <p>Fonduk Maguz, W. of the road, has a well with good, but not very abundant, water.</p>
2 30	6 30	<p>FONDUK MAGUZ—SWANI BENI ADEN.</p> <p>Vegetation as above. There are gardens after Bir Binnai. The most important among these are the Swani Bu Aza (20 mins. to the E.), and the Zwalyina (35 mins. to the E.). These gardens grow palms, and have wells of good water about 40 ft. deep.</p>

¹ *Sic*; meaning obscure.

Hours	
Inter- mediate	From Tripoli

Road as above for the first 40 mins. Ground hard for the first part, then it becomes sandy, and the road passes through a region of dunes as far as **Bir Binnai** (30 mins. from Maguz), a well of water W. of the road. It is doubtful whether this water is suitable for drinking purposes. The road after this becomes good and passes through country that is firm and undulating, with a few small dunes.

There is a garden with palms at **Swani Beni Aden**. It is situated in the NE. corner of the four cross-roads (to Tripoli via Zanzur to the W., Azizia via Fonduk Ben Gashir to the E.). Another similar garden lies 10 mins. to the E. There is good and abundant water in three wells, one of which has a pump.

Railway station on the Zanzur road, 10 mins. to the NW. Telegraph and garrison.

1 35	8 5	SWANI BENI ADEN BIR-MIAMIM.
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Sand-hills highest to the E. Scanty scrub and some gardens.

The road is good, but somewhat inclined to be sandy. It follows the bed of the Wadi el Hira, which is scarcely visible.

There is a railway halt to the W. at **Miamim**. To the E. a fonduk and two wells, with good and abundant water, about 35 ft. deep.

3 40	11 45	BIR MIAMIM-AZIZIA (KEDWA).
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The soil of the Urshefana plain is firm, and is thickly dotted with mounds consolidated

Hours	
Inter- mediate	From Tripoli

by the roots of the bushes and shrubs which rise above them.

Fields of barley and gardens are scattered along the road-side after Bir Ben Nasser.

The road bottom is fairly firm. The new road, which is wider, but considerably more winding, leaves the old caravan road to the E. This last-named road is narrower, but shorter and less used by light traffic, and is therefore preferred by motor-cars. It crosses to E. after 45 mins.

Road reaches **Bir Umm el Adem** after 1 hr. 5 mins. There is a well with good and abundant water, 62 ft. deep, on the old caravan road to the E.

Bir Ben Nasser (2 hrs. 25 mins. from Bir Miamim) has a well of good and abundant water 80 ft. deep.

The two roads join at Bir Ben Nasser. Bir Jedid, 75 ft. deep, lies 30 mins. to the W., and has good and abundant water.

There is a level crossing 2 hrs. 40 mins. from Bir Miamim. For Azizia see p. 155.

Branch roads from Azizia SW. (road for wheeled traffic) to Bir el Ghanem; S. (road for wheeled traffic) to Rapta; E. to Tarhuna (road for wheeled traffic); NE. to Fonduk Ben Gashir (caravan route).

4 0 16 0 **AZIZIA (KEDWA)—FONDUK SHEBANI.**

Road, ground, and vegetation as above. After heavy prolonged rains the road may become impracticable, owing to the formation of marshes. The natives in this case make a detour to the W., going by Umm el

Hours	
Inter- mediate	From Tripoli

Grun, Ras el Maghel, and Bir Sukman to Fonduk Shebani, which takes about the same time.

Bir Lella (2 hrs. 45 mins. from Azizia), a well on the W. side of the road, is 170 ft. deep and has good and abundant water.

After 35 mins. the road crosses the Wadi el Hira at a point which is marshy in rainy weather.

Bir Sukman, 10 mins. W. of the road from Bir Lella, is a large cistern of good water.

Fonduk Shebani, E. of the road, is a fonduk with a cistern and is surrounded by a garden. Other cisterns are scattered about the country, not more than 15 mins. away, with good but scarce water. In the distance numerous mounds are seen, evidence of a higher level of the plain at one time.

3 30	19 30	FONDUK SHEBANI—BU GHEILAN.
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Ground solid and covered with stones which get more numerous and larger as the mountain is approached.

Vegetation as before.

Road good for the first 2 hrs., then excellent. Masonry culverts across the wadis. During the last hr. there is a slight ascent.

At **Bu Gheilan**, E. of the road, are some fonduks and gardens, and an excellent spring with abundant water is found in the large valley of the same name. Gardens with palms in the vicinity. Cf. p. 156.

The eastern slope of the basin (**Kahf Ghan**) is fairly steep, but unbroken; the western very irregularly and deeply eroded.

Hours		
Inter- mediate	From Tripoli	
1 15	20 45	<p>BU GHEILAN—SIDI SAMES (1st TERRACE).</p> <p>Made road in good condition. It rises with many windings with a gradient of not more than 6 per cent (1 in 16).</p> <p>At Sidi Sames, to W., near the road, is a marabut and several grottos, two houses with a post of gendarmes, and a cistern. E. of the road are other cisterns and grottos, as also in the villages of Buhakma (15 mins. to NE.) and Basloma (15 mins. to E.) which have marabuts.</p>
2 20	23 25	<p>SIDI SAMES TO THE FOOT OF JEBEL TOBBI (2nd TERRACE).</p> <p>Ground slightly undulating with a gradual fall to E. Olive-groves, thickest in the first $\frac{1}{4}$ hr.</p> <p>Road as before, level. 15 mins. from Sidi Sames and 20 mins. W. of the road is the village of Rabda with a marabut and a few houses and grottos on a mound.</p> <p>To the W., after 1 hr. 30 mins., is Mt. Takuk (15 mins. distant from the road and 2,360 ft. above sea-level) with a sharp peak rising about 660 ft. above the plateau.</p> <p>1 hr. 45 mins. from Sidi Sames, to SE., is Gwasem, with houses, cisterns, and a mule-track to the Wadi Ghan.</p> <p>The road turns to W. at the end of the stretch.</p>
0 55	24 20	<p>FROM THE FOOT OF JEBEL TOBBI TO THE EDGE OF THE PLATEAU.</p> <p>Ground rocky with scattered scrub.</p> <p>Road as before, rising with a moderate gradient and many windings.</p>

Hours		
Inter- mediate	From Tripoli	
		After 45 mins., 10 mins. to E. in the low ground are 3 wells of good and abundant water.
0 40	25 0	FROM THE EDGE OF THE PLATEAU TO KASR GHARIAN.
		Ground slightly undulating. Thick olive-groves, fields, orchards, and gardens.
		Level road. After crossing a little height at half-way, Kasr Gharian is seen. 550 yds. before arriving there, roads branch off S. to Yefren (the plateau road for wheeled traffic) and Mizda, and SE. to Tarhuna.
		For Gharian see p. 153.

ROUTE 7

FONDUK EJJASH (FONDUK JEFARA)—GHERRIM—KUSABAT

A caravan road with a firm bottom, generally good, rather difficult in the 3rd and 6th hr.

Hours		
Inter- mediate	From F. Ejjash	
2 30	2 30	FONDUK EJJASH (JEFARA) TO THE WADI SELMA.
		This is the Jefara region. The ground is compact, slightly undulating, and very fertile; intensively cultivated with olive gardens and barley fields for the second half of the way, with a few houses and many cisterns; the rest of the way scrub, bushes, and pasture-land.

Inter- mediate	Hours	From F. Ejjash	
			<p>The road is a good caravan road. The crossing of the Wadi Sidi Abdallah (1 hr. from Fonduk Ejjash) is rather difficult for wheeled traffic owing to its enclosed, gravelly bed. The road separates from the Tripoli-Khoms road 550 yds. E. of Fonduk Ejjash, at a point near which, to S., is a well of good water. Occasional <i>senams</i> at the side of the road.</p> <p>The Wadi Selma has a deep, gravelly bed like the Wadi Sidi Abdallah.</p>
1 45	4 15		<p>THE WADI SELMA—KASR SELMA.</p> <p>Hilly ground. Scrub, shrubs, barley fields; the road passes through olive groves in the hollow W. of Fonduk Mahmud and in that E. of Kasr Selma.</p> <p>A caravan road with an irregular, pebbly bottom, not practicable for wheeled traffic. Having crossed the Wadi Selma, the road ascends with a rather steep gradient, making a great bend to N., the hill opposite and enters the mountainous region. After 1 hr. 15 mins. it arrives at the isolated Fonduk Mahmud, below a mound to the E., and enters the Msellata territory. The road improves during the last 20 mins.</p> <p>Kasr Selma is a village situated on top of a hill with masonry houses and cisterns and a marabut.</p>
1 45	6 0		<p>KASR SELMA TO THE WELLS OF GHERRIM.</p> <p>Ground and vegetation as before.</p> <p>A good caravan road. After 20 mins. it descends gradually down to an affluent of</p>

Hours		
Inter- mediate	From F. Ejdash	
		the Wadi Gherrim and then proceeds half-way up the slope. The two wells of Gherrim are near an olive grove in a little basin, about 100 yds. E. of the river of the same name, taking from the point where the road goes down to it. They have good and abundant water. The village of Gherrim is situated above the road on a hill about $\frac{3}{4}$ m. to S. It has masonry houses and cisterns.
1 30	7 30	FROM THE WELLS OF GHERRIM TO THE MARABUT OF SIDI ABDESSALAM (HEAD OF THE WADI GHERRIM). Ground rocky. Valleys with fairly low sides which slope gradually. Vegetation as above ; here and there little olive groves. The road is a mule-track. It goes up the bed of the Wadi Gherrim and is rather pebbly for the first 20 mins., enclosed between sheer sides, to the W. of the village of the same name. It then improves. The marabut of Sidi Abdessalam is a little before the head of the Wadi Gherrim, E. of the road. There are olive-trees near by.
1 0	8 30	FROM THE MARABUT OF SIDI ABDESSALAM TO KUSABAT. Ground undulating. Olive-groves, thickest near Kusabat ; barley fields. A good caravan road, practicable for wheeled traffic. After 10 mins. a marabut to E. ; 45 mins. from Abdessalam, $\frac{1}{2}$ m. to W., is a depression with the well of Zaafraania ,

Hours	
Inter- mediate	From F. Ejjash

which has pumps, a trough, and plenty of good water; $\frac{1}{4}$ hr. after, the village of **Zaafraania**, with a marabut, on an elevation to the E.

For **Kusabat** see p. 158.

ROUTE 8

SIDI BEN NUR—OLD BIR RUAJA—KASR DOGA— TARHUNA

This is a caravan road, practicable for wheeled traffic in the plain, somewhat irregular, and not practicable for wheeled traffic in the Msaaba valley. There is no water to be found after 3 hrs. from Sidi Ben Nur. Italian infantry detachments have not traversed the whole of the road.

Hours	
Inter- mediate	From Sidi Ben Nur

1 0	1 0	SIDI BEN NUR—BIR KETNA.
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See Route 1 A. For Sidi Ben Nur, see p. 141.

1 30	2 30	BIR KETNA TO BIR GWEDA (BIR TARGUT).
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A level tract, crossed from E. to W. by a line of dunes, broken at many points. The road passes through one of these gaps. Gardens and fields of barley are frequent. Various kinds of bushes and pasture.

The road bottom is hard and solid.

At **Bir Gweda** (or Targut) there are two wells by the side of the road. They are 50 ft. deep, and have good and abundant water. There is a garden beside the westernmost well.

Inter- mediate	Hours From Sidi Ben Nur	
1 15	3 45	<p>BIR GWEDA—OLD BIR RUAJA.</p> <p>Road, ground, and vegetation as above.</p> <p>There are dunes in places for the first 25 mins. Bir Amerin, 30 mins. beyond Bir Gweda, has a good but scanty supply of water. A marabut of the same name is situated on a hillock to the E.</p> <p>Old Bir Ruaja is a deep dried-up Roman well.</p>
2 15	6 0	<p>OLD BIR RUAJA—ZAWIA ABD EL HADI.</p> <p>The ground is rocky and stony. The Msaaba (Msid) valley is narrow at its entrance and is shut in between precipitous slopes. Immediately afterwards it opens out into a kind of amphitheatre, across the bottom of which runs a low spur, which thrusts out from the western slope. The Zawia Abd el Hadi is situated on the top of one of these hills, 330 yds. to the W. of the road. This is an important landmark and is surrounded by some fields and gardens.</p> <p>There are some isolated palms and olive trees. Also various kinds of bushes. Esparto grass grows in the higher ground.</p> <p>The caravan road is stony and not practicable for wheeled traffic. It crosses an arm of the Wadi Msaaba, leaving the ruins of Senam Bu Said 550 yds. to the W., and then enters the valley and the bed of the Msaaba, which it leaves 1½ hrs. beyond Bir Ruaja, and ascends gently between two striking ruins.</p>

Hours		
Inter- mediate	From Sidi Ben Nur	
3 0	9 0	<p>ZAWIA ABD EL HADI-KASR DOGA.</p> <p>Ground and vegetation as before.</p> <p>The caravan road is covered with stones and boulders. After 20 mins. from the Zawia it descends again into the bottom of the valley, which becomes narrower, and follows the valley, crossing several times the tortuous bed of the Msaaba. The road runs along this bed for the last $\frac{1}{2}$ hr. and enters into a narrow gorge excavated in the second terrace of the plateau.</p> <p>At the exit from the defile, on a mound 1,100 yds. to the NW., are the imposing ruins of Kasr Doga, which dominate the valley and are surrounded by a cemetery.</p> <p>There is a branch road NE. to Kusabat.</p>
2 30	11 30	<p>KASR DOGA-TARHUNA.</p> <p>The ground is firm and undulating. After Kasr Doga, there are three successive hollows intersected by wadis. These hollows are at a distance of about $\frac{1}{2}$ hr. from each other. A tract of the country near Tarhuna, about $\frac{3}{4}$ m. in breadth, is covered with dunes.</p> <p>Vegetation as above. It is thicker in the hollows, where there are also some gardens.</p> <p>The road turns to the E. It becomes hard and practicable for wheeled traffic.</p> <p>For Tarhuna see p. 156.</p>

ROUTE 9

AZIZIA—ABIAR MILGA—TARHUNA

The road is practicable for wheeled traffic. For the first 25 m. it runs in the plain; for the remaining 18 m. through a hilly region. It easily becomes impassable for vehicles during the rainy season.

Hours		
Inter- mediate	From Azizia	
5 0	5 0	<p>AZIZIA TO THE WADI MEJENIN.</p> <p>This tract is the characteristic Urshefana plain, covered with bushy mounds, stretches of pasture and barley-fields, and some tracts of dune.</p> <p>The road is level and practicable for wheeled traffic.</p> <p>The hill of Sidi Bargub, on the l. bank of the Mejenin, is surmounted by the marabut and dominates the road to the N. The Bir of the same name is near the road. It has a scanty supply of drinkable water.</p> <p>The bed of the Wadi Mejenin is impassable during rain.</p>
3 0	8 0	<p>THE WADI MEJENIN—SIDI ULID.</p> <p>Road, ground, and vegetation as in the preceding section.</p> <p>There are some cisterns in the bed of the Mejenin, to the S. of the road. The marabut of Sidi Jilani is situated on the r. bank, dominating the road, and is at the crossing of other roads coming from Fonduk Ben Gashir.</p> <p>The marabut of Sidi Ulid, near the cisterns</p>

Hours		
Inter- mediate	From Azizia	
		(<i>Moajen</i>) of Dogman , is at the crossing of the caravan road, which going from Fonduk Ben Gashir to Sidi Saya ascends the Wadi Btea valley.
3 0	11 0	SIDI ULID—FUM MILGA (FORK OF THE CARRIAGE ROAD FONDUK BEN GASHIR—TARHUNA). Road, ground, and vegetation as before. At the debouchment into the plain of the Wadi Milga (Fum Milga), the roads coming from Fonduk Ben Gashir (Route 5; practicable for wheeled traffic) and the caravan road from Ain Zara to Bir Tennin join and go straight to Tarhuna.
6 30	17 30	FUM MILGA—TARHUNA. See Route 5.

ROUTE 10

ZANZUR—BIR TERRINA—BIR MEDAKKIN—BIR
UMM JIWABI—YEFREN

This is a good caravan road. It is passable with some difficulty for light wheeled traffic up to Bir Umm Jiwabi. Afterwards it is only a mule-track.

Hours		
Inter- mediate	From Zanzur	
1 15	1 15	ZANZUR—SAYAD (FAGA FORK). Ground undulating and firm, although sandy. Outside the oasis there is scrub and pasture-land.

Hours	
Inter- mediate	From Zanzur

A good caravan road, practicable for wheeled traffic. After about $\frac{1}{3}$ m. it leaves to the S. the Swani beni Aden road, continuing towards W., and at half-way emerges from the oasis of Zanzur. It enters the oasis of **Sayad** (see plan, p. 133) 10 mins. before the Faga fork and soon after rejoins the Tripoli-Zawia road and leaves to S. **Jama Mukdar** (220 yds. E. of the Faga fork). There is to S. another and better road which is 20 mins. longer. It goes by Bu Tlara (see Route 12), Ali Tantush, Zawiet Ahmura, and rejoins the route at Jama Mukdar (see plan, p. 133.)

The **Faga fork** is N. of the hamlet of that name and S. of the hamlet of Ben Amur.

2 30

3 45

SAYAD (FAGA FORK) TO THE HASHAN CROSS-ROAD.

Ground undulating and not very firm. A large expanse of sand-hills E. of the second half of the stage. Vegetation as above.

Good caravan road that may with difficulty be used for wheeled traffic. It traverses the oasis in a S. direction for 5 mins., and 1 hr. later, NE. of a sandy hill, is crossed by the Zanzur-Hashan caravan road.

The cross-roads (NE. to Zanzur, SE. to Azizia, SW. to Bir Terrina, N. to Sayad, and NW. to El Maya, all caravan roads) are at the foot of the eastern side of an isolated sandy hill. 2 m. to NE. of the cross-roads is the not very extensive **Hashan oasis** with a mosque on the S. edge, some houses, and

Hours Inter- mediate	From Zanzur	
		several wells with good and abundant water. Other good wells, about 22 ft. deep, are in some gardens $\frac{3}{4}$ m. to NE. of the cross-roads.
2 30	6 15	FROM THE HASHAN CROSS-ROAD TO BIR TERRINA. Ground and vegetation as above. A road practicable for wheeled traffic, but rather difficult, the bottom not being very firm. At Bir Terrina are several fonduks and a large well of good and abundant water, surrounded by <i>gandul</i> bushes.
3 30	9 45	BIR TERRINA—BIR JEDID. Ground as above. Bushes and scrub ; pasture in the rainy season. Road practicable for wheeled traffic. Bir Jedid (to the W.) is a well, about 50 ft. deep, with good and abundant water, near a garden with fig-trees.
1 15	11 0	BIR JEDID—BIR JEMMAL. Ground undulating and firm for the first $\frac{3}{4}$ hr. Vegetation as above. Road practicable for wheeled traffic, but difficult during the last $\frac{1}{2}$ hr. owing to the pronounced undulations and little dunes. Bir Jemmal is a well, with good and abundant water, near some fonduks.
1 45	12 45	BIR JEMMAL—AHMURA (BIR GAMUDI). Ground gently undulating with rocky, flat stretches, without vegetation. Road practicable for wheeled traffic. Ahmura is an isolated hill to the E. of the road. On the top are the ruins of the <i>kasr</i>

Inter- mediate	Hours	From Zanzur	
			of the same name and a marabut. At the foot of the hill, near an isolated jujube-tree, a caravan road branches off E. to Azizia ; along it, a few mins. from the fork, is the well of Bir Gamudi with brackish water. To SE. is a belt of high hills called Ihlah.
2 15	15 0		<p>AHMURA (BIR GAMUDI)—BIR LESHAM.</p> <p>Ground and vegetation as above.</p> <p>Road practicable for wheeled traffic as far as Henshir el Awena (1 hr. 30 mins. from Ahmura), a well, about 85 ft. deep, suitable only for watering animals. The road then becomes difficult for wheels, traversing country rising above the plain, and covered with little sand-dunes.</p> <p>Bir Lesham is a well, about 100 ft. deep, with plenty of good water, and surrounded by some gardens and bushes.</p>
1 15	16 15		<p>BIR LESHAM—BIR MEDAKKIN.</p> <p>Ground firm with 'flat rocky outcrops. Shrubs, bushes, and scrub.</p> <p>The road is fit for wheeled traffic.</p>
6 0	22 15		<p>BIR MEDAKKIN—BIR UMM JIWABI.</p> <p>This is the great Gattis plain. The surface is fairly firm.</p> <p>Some bushes and shrubs ; numerous stretches cultivated with barley ; scrub and pasture.</p> <p>Road practicable for wheeled traffic.</p> <p>Bir Umm Jiwabi is a well, 75½ ft. deep, with abundant but rather bad water. About 1,100 yds. to NW. is a great isolated tower (Kasr Umm Jiwabi).</p>

Hours		
Inter- mediate	From Zanzur	
3 45	26 0	<p>BIR UMM JIWABI TO THE FORK OF THE ROAD TO AULAD TAHLBAT.</p> <p>Ground is very broken, mostly consisting of rock or detritus. Vegetation consists of bushes and various shrubs.</p> <p>The road becomes difficult for wheeled traffic owing to the stones, which increase in number as the Jebel is approached. After 1 hr. the road begins to ascend through hilly country along the valley of the Wadi Greb. The ascent is not very steep. In 45 mins. Ain Greb (a well, about 5 ft. deep, with good but not very abundant water) is reached. The ascent becomes steeper, but is still possible for horsemen. After 1 hr. 15 mins. it arrives at Tanduna, to W. of which the valley of the same name extends for about $\frac{3}{4}$ m. It is planted with olives, figs, and palms.</p> <p>From here it skirts the Tanduna spur, on which are seen the ruins of Kasr el Mahmel.</p>
1 30	27 30	<p>FROM THE FORK OF THE ROAD TO AULAD TAHLBAT TO TAGMA EL FOGI.</p> <p>Ground is rocky and broken. Isolated trees and shrubs.</p> <p>The road (a mule-track) descends the Tanduna spur, crosses a large rocky valley, and winds up the steep spur on which Tagma stands. At Tagma are a score of houses and several cisterns.</p>
2 0	29 30	<p>TAGMA EL FOGI—YEFREN.</p> <p>After a few minutes the track joins the road from Bir el Ghanem to Yefren (practicable for wheeled traffic). See Route 17.</p>

ROUTE 11

TRIPOLI—ZANZUR—ZAWIA—AJILAT—ZWARA—BU
KEMESH—BEN GHARDAN

This is the important and ancient route between Tripoli and Tunis. It is clearly marked, well trodden, and practicable for wheeled traffic throughout, though with some difficulty in certain sandy places and, during rains, in the *sebkha* regions.

Hours		
Inter- mediate	From Tripoli	
1 45	1 45	<p>TRIPOLI (BREAD MARKET)—GHARGARESH.</p> <p>Ground undulating, not very firm, and with outcrops of solid rock here and there.</p> <p>Vegetation outside the oases, scrub, occasional shrubs and pasture-land.</p> <p>Road, level, at some points runs between high banks, with sandy tracts and outcrops here and there. It runs at an equal distance between the railway and the sea. It is very sandy for the first $\frac{1}{2}$ hr. as far as the Ghargaresh gate. Half-way it passes the old Turkish barracks, now adapted to local uses ; not far away, to N., is the dismantled fort Sultania ; $\frac{3}{4}$ m. to S., the little oasis of Gurji, well cultivated and with abundant water.</p> <p>Ghargaresh is a little oasis to N. of road, with numerous houses and good wells. Stone quarries ; railway station 5 mins. to S. ; Royal Carabineer station.</p>
2 45	4 30	<p>GHARGARESH—ZANZUR (CROSS-ROADS).</p> <p>Ground, vegetation, and road as above. After 1 hr. 30 mins. there is a level crossing a little to NW. of the station of Gheran</p>

Hours Inter- mediate	From Tripoli	
		(branch railway line to Swani Beni Aden and Azizia).
		There is another road, practicable for wheeled traffic, which serves this stretch, Ghargaresh—Sidi Abdul Jelil—Sidi Billal—El Maya, rather longer and skirting the sea. The cross-roads are formed by the crossing of this road with that which joins the railway station with the hamlet of Zanzur and is at an equal distance from either (20 mins.).
		For Zanzur see p. 132.
		Branch roads: road N. practicable for wheeled traffic to the railway station (distance about 2 m.) and Sidi Abdul Jelil; another SE. to Swani Beni Aden; caravan road SW. to Bir Terrina thence to Yefren or Azizia.
3 30	8 0	ZANZUR—EL MAYA.
		Ground rather firmer. Vegetation as before, but thicker.
		Road as before. After 1 hr. 45 mins. it crosses the little oasis of Sayad , almost joining that of Zanzur (see p. 133, Oasis of Zanzur). From this oasis, and directly after the hamlet of Faga , on S. side of the road, a road branches off to Bir Terrina and Yefren (see Route 10).
		El Maya , a small and fertile oasis, has a large fonduk and several houses by the road and marabuts in the neighbourhood; several wells with good and abundant water.
4 0	12 0	EL MAYA—ZAWIA.
		Ground, vegetation, and road as above.
		The road leaves a group of four oases (Tweb-

Hours	
Inter- mediate	From Tripoli

bia, with a large hamlet, Ghilifa, Gargusa, Tina) about $2\frac{1}{2}$ m. to S., and after 2 hrs. 50 mins. crosses the rather small oasis of **Jeddaim**, whence Zawia is visible. All these oases have houses and good wells.

3 hrs. 15 mins. from El Maya, on the eastern edge of the oasis of Zawia, is the little white marabut of **Sheikh Mohammed el Ajeli**, visible at a great distance. It is an important point, as two roads branch off from there: one W., a good caravan road, probably practicable for wheeled traffic, almost immediately enters the oasis, approaching the most thickly populated parts and continues, passing through the oases of Harsha, el Mottered, Dahman, Umm el Halluf, Jenanaet el Alalga, and rejoining the postal motor road beyond Ajilat, at Hosh Nuri; the other N. to Marsa Dela, a small boat-harbour 40 mins. distant.

After the marabut the post road turns SW. and skirts the oasis for $1\frac{1}{2}$ m. as far as the Turkish bath (recognizable at a distance by its pierced cupolas. From this point a branch goes to Bir Terrina (see Route 14), after which it enters the oasis and reaches the *kasr* in a few mins.

For **Zawia** see p. 132 and plan, p. 131.

All the officials and practically all the Europeans reside in the group of houses near the *Kasr* (fort) and the *Suk*, where a most important market is held. Other villages, the most important of which is the Jewish one of Hara (20 mins. N. of the *Kasr*), are scattered about the oasis, which is very

Hours		
Inter- mediate	From Tripoli	
		fertile and has abundance of both sweet and brackish water. Stone quarries to the N. near the sea. Another branch road (besides those mentioned already) S. to Bir el Ghanem and Yefren (see Route 17).
2 30	14 30	ZAWIA—BU AISSA. Vegetation and road as above. During the first $\frac{1}{2}$ hr. the way is across the oasis of Zawia by a good road recently improved, and during the second hr. across the fertile oasis of Sabria , which is well cultivated, has numerous buildings, and on the N. joins the oasis of Harsha. The undulations and the general level of the ground diminish while the surface gets rather firmer. At the eastern edge of the oasis of Bu Aissa is the mosque of Zawiet el Amuri to N., and the marabut of Sheikh Saad to S. 550 yds. farther on a road branches off to S. and leads in a few mins. to the hamlet of the same name, and then continues on to Bir el Hamra and Bir el Ghanem (see Route 18). Plenty of good water.
1 30	16 0	BU AISSA—SORMAN. Ground gently undulating. Vegetation and road as above. Just outside the oasis there is seen to N., on a height 650 yds. away, the marabut of Sidi Raguba and in the distance the oasis of El Mottered, adjoining that of Bu Aissa. Sorman is a village of a few houses, the capital of the Mudiria, with a population of

Inter- mediate	Hours From Tripoli	
		<p>about 7,000, Royal Carabineer station, and post and telegraph service.</p> <p>It is in the E. part of the oasis of the same name, which is fertile, but not much cultivated. Plenty of good water is found at a small depth.</p> <p>A road, practicable for wheeled traffic, branches off NW. to Dahman and Marsa Sabrata, where are the ruins of the old city of that name.</p>
5 0	21 0	<p>SORMAN—AJILAT.</p> <p>The ground is in part gently undulating, in part level. There are shrubs, scrub, and much pasture.</p> <p>It is a level road, fit for wheeled traffic, with a generally firm bottom. For the first 45 mins. it crosses the Sorman oasis, leaving to N. the great <i>sebkha</i> and oasis of Dahman. 1½ hrs. from Sorman the road touches the Katateba oasis, and then successively those of Umm el Halluf and Nebat. These are small and dotted with small salt marshes, which lie at a distance of about 1 m. from each other.</p> <p>Finally the road crosses the large salt marsh of Menga Hadid.</p> <p>For Ajilat see p. 130.</p> <p>Caravan roads branch NE. to Marsa Zwagha and Marsa Sabrata; S. to Kasr el Hajj (see plan of Ajilat, p. 130).</p>
5 0	26 0	<p>AJILAT—MELLITA.</p> <p>Thin vegetation of scrub.</p> <p>The road is flat. It emerges from the oasis after 45 mins. and crosses the large</p>

Inter- mediate	Hours From Tripoli	
		<p>salt marsh of Aulad Hamed. After $2\frac{3}{4}$ hrs. the carriage road rejoins the alternative caravan road from Zawia. It then crosses the northern fringe of the coast oases, and $3\frac{1}{4}$ hrs. from Ajilat it leaves the ruins of the house of Hosh Nuri 550 yds. to the N. There are no wells at Hosh Nuri.</p> <p>There are some Roman ruins on the top of a hill at Mellita. This hill extends into the salt marsh N. of the road. There are two wells with good and abundant water in the vicinity.</p>
1 45	27 45	<p>MELLITA—MANGUB.</p> <p>Road, ground, and vegetation as above. Some eminences, mostly sandy.</p> <p>Mangub is a small oasis N. of the road, with five wells of drinkable and abundant water.</p>
1 45	29 30	<p>MANGUB—ZWARA.</p> <p>Road and vegetation as above. The ground is firm and sandy. There are salt marshes in places. Range of dunes before reaching Zwara.</p> <p>For the first 45 mins. the road skirts the N. edge of the <i>mellaha</i> of the Marsa.</p> <p>For Zwara see p. 128.</p>
3 0	32 30	<p>ZWARA—KSUR SHAIR.</p> <p>The ground is hard and undulating. Vegetation as above.</p> <p>The road is flat. It leaves the oasis after 1 hr.</p> <p>Ksur Shair is an elevation, with some houses. There are a few gardens with palms, and some wells of good water.</p>

Hours		
Inter- mediate	From Tripoli	
1 15	33 45	KSUR SHAIR—BU BESLA. Road, ground, and vegetation as above. After $\frac{1}{2}$ hr. road passes the small marabut of Gober el Haji , N. of the road. Bu Besla has some scattered houses, with a few gardens. There are wells with good water.
1 15	35 0	BU BESLA—ASHAN BASKAL. Level road ; firm going over salt marsh. At Ashan Baskal are ruins of fortifications, perhaps mediaeval.
1 30	36 30	ASHAN BASKAL—BIR MREBA. Ground and road as above. After 45 mins. the road passes under the height of Sidi Ali , where is the half-demolished marabut of that name. Bir Mreba has good and abundant water.
0 45	37 15	BIR MREBA—SIDI SAID. Road runs over hard undulating ground. At Sidi Said are two little oases with gardens to S. of marabut and two wells with moderate water. Throughout this stretch sweet water is found about $6\frac{1}{2}$ ft. deep.
2 45	40 0	SIDI SAID—BU KEMESH. Ground and road as above. After crossing the undulations of Ras el Ma , the road reaches at half-way the saline well of Dahri Sassi . At Saniet Yahia , $1\frac{1}{4}$ m. to E. of Bu Kemesh, are other wells with undrinkable water. Bu Kemesh is the ancient <i>borji</i> , now

Hours		
Inter- mediate	From Tripoli	
		repaired ; in the neighbourhood are the ruins of the Roman town of Pisida.
5 0	45 0	BU KEMESH—THE FRONTIER.
		A level road. After 3 hrs. it enters the Gwetayet el Magta <i>sebkha</i> and skirts the Marsa Brega, a small creek, difficult to approach, formerly frequented by smugglers.
		Near Marsa Brega are places where, perhaps under exceptional circumstances, the <i>mellaha</i> reaches the sea.
		The road passes the frontier at post 33 , about $1\frac{1}{4}$ m. S. of Ras Ajir ; about 100 yds. N. of the road is an old Roman cistern in bad condition, but containing water and easily to be restored.
2 30	47 30	FROM THE FRONTIER TO SHUSHA (ALWET EL GUNNA).
		Ground is <i>sebkha</i> .
		Road gradually gets level near the frontier and afterwards becomes perfectly flat.
		At about $\frac{3}{4}$ m. from the frontier, S. of the road, is a restored Roman cistern with good water.
		At Shusha is a small fort occupied by French spahis ; two cisterns : one inside the fort, one outside.
5 0	52 30	SHUSHA—BEN GHARDAN.
		Level road over <i>sebkha</i> .
		Ben Ghardan , once principal place of the Nawayil, is a very small village, now an important caravan and commercial centre with a fine oasis. Is the most frequented market of the people of Zwara and the Nawayil.

ROUTE 12

ZANZUR—SWANI BENI ADEN—FONDUK BEN GASHIR

This is a road practicable for wheeled traffic, and the favourite one for motors going to Azizia and Tarhuna.

Hours	
Inter- mediate	From Zanzur
3 30	3 30

ZANZUR—SWANI BENI ADEN.

Ground is undulating for the first hr., then follows the vast zone of Anjila, level and plentifully supplied with water, broken here and there by dunes. See plan, p. 133.

Besides the gardens mentioned below, there are other scattered gardens, fields of barley, pasture, and scrub.

Road has a firm bottom and is practicable for wheeled traffic.

20 mins. S. of Zanzur, just past the hamlet of **Bu Tlara**, the road crosses the Tripoli el Maya caravan road and 5 mins. later turns to E. of the great cemetery with its central marabut of **Yabbana Sidi Ali Zawani**. At 45 mins. from Zanzur it leaves 1 m. to W. the settlement and oasis of **Mshasta**, and 20 mins. later, near the railway halt of Mshasta, joins the road coming directly from Aulad Swessi, leaving to NW. the oasis of Zanzur. From this point the road continues along the faintly marked bed of the Wadi **el Hira**, flanked on the E. by the railway, on the W. by a caravan road, which branches off 15 mins. from the bifurcation, going to various gardens and then

Inter- mediate	Hours From Zanzur	
		<p>rejoining the route near the railway station of Swani Beni Aden.</p> <p>At 35 mins. from the Mshasta halt, Fonduk Mohammed Ben Aleila, with a garden, lies to the W., and 30 mins. farther on is the railway halt of Anjila, E. of road, and several gardens with wells on the opposite side. The road turns to SE.</p> <p>Finally, after 20 mins., it passes Bir Saniet bu Jafa to W. in a marshy region called Raghet Eddwara, which is bounded on S. by a line of dunes, E. of the road opposite the little hill of Sideret Essuk.</p>
2 30	6 0	<p>SWANI BENI ADEN—FONDUK BEN GASHIR.</p> <p>Ground is level and firm, enclosed by dunes. Many gardens, more numerous to the N., containing wells with good water and palms; fields of barley, pasture-land, and scrub.</p> <p>Road as above. 35 mins. from Swani Beni Aden it leaves 550 yds. to S. the garden of Bir Usem with a well, about 40 ft. deep, of good and abundant water.</p> <p>1½ hrs. later it crosses another group of gardens, about 1¼ m. to N. of which are the three Saniet Mahmud with a marabut and several houses.</p>

ROUTE 13

ZANZUR—HASHAN—AZIZIA (KEDWA)

This road is practicable for wheeled traffic but only with difficulty, especially in summer, owing to numerous hills of sandy soil, of which only the surface is firm.

Hours		
Inter- mediate	From Zanzur	
1 15	1 15	ZANZUR—SAYAD. See Route 10 and plan p. 133.
2 30	3 45	SAYAD TO THE HASHAN CROSS-ROADS (SANIET SHAMLI). See Route 10. To E. of the cross-roads are the gardens of Saniet Shamli with 3 wells of good water, 23 ft. deep.
7 0	10 45	FROM THE HASHAN CROSS-ROADS TO AZIZIA. Ground undulating one-third of way, then firm level going over a uniform plain. Vegetation of shrubs growing on the tops of mounds, many fields of barley, pasture-land. Road has a fairly firm bottom and is practicable for wheeled traffic with some difficulty. 2 hrs. 30 mins. from Saniet Shamli, about $\frac{3}{4}$ m. E. of road, is the well of Ben Zalla with good but not very abundant water in a belt of country covered with bushes. 1 hr. 30 mins. further on is the well of Aulad Jaber with good and abundant water. Both these are on the rather sandy caravan

Hours	
Inter- mediate	From Zanzur

road which goes from Zanzur by Mshasta to Azizia, saving about 1 hr. 45 mins.

This caravan road joins that described at **Bir Jedid**, a well of good water 1 hr. before Azizia.

For **Azizia** see p. 155.

ROUTE 14

ZAWIA—BIR TERRINA—AZIZIA

This is a good caravan road practicable for wheeled traffic but difficult in the dry season, especially in the first part, on account of the shifting character of the surface. Is accompanied by a telegraph line.

Hours	
Inter- mediate	From Zawia

0 15

0 15

ZAWIA (KASR) TO THE 'TURKISH BATH'.

See Route 11. Road goes NE.

3 0

3 15

FROM THE 'TURKISH BATH' TO BIR RESIN (RAS TAHIR).

Ground very undulating, firm on the surface; some dunes, scrub and bushes, pasture-land.

Good caravan road with a firm bottom and many tracks. Is practicable for wheeled traffic, but difficult in summer. Direction SE.

For the first 40 mins. it skirts on NE. the oasis of **Zawia** and a few mins. from the 'Turkish Bath' is joined by the telegraph line which runs with it to Azizia.

After 1 hr. 15 mins., $1\frac{1}{2}$ m. to SW., is a garden with the well of **Saniet Kteb** on the

Hours Inter- mediate	From Zawia	
		<p>sandy caravan road, running parallel, which leaves the Kasr and goes directly SE., passing by the barracks of the Royal Carabineers and then across the oasis.</p> <p>45 mins. further on at the foot of some heights about $\frac{1}{4}$ m. away is Sania Jedida, and further off Swani Bu Surra.</p> <p>Bir Resin lies to the W., immediately after Ras Tahir, an eminence rather higher than those surrounding it, is passed. Bir Resin has a small supply of moderate water.</p> <p>To E. are gardens with houses and good wells. Those worth mentioning for abundance of water are: Bir Lwafi and Bir Jenani. From Bir Resin a caravan road branches off to the oases of Tina, Twebbia, and El Maya.</p>
1 0	4 15	<p>BIR RESIN—BIR TERRINA.</p> <p>Ground, vegetation, and road as above.</p> <p>About half-way the road crosses the western border of a low level region (Anjila), where there are some gardens and wells of good, abundant water. Bir Abdalla Ben Musa, to NE. of the road, is worth noting.</p> <p>For Bir Terrina see p. 261.</p>
4 30	8 45	<p>BIR TERRINA—AZIZIA.</p> <p>The ground, at first undulating, gradually becomes a uniform plain dotted with little mounds overgrown with big bushes and shrubs, extensive barley-fields, and pasture-land.</p> <p>Road mediocre but practicable for wheeled traffic.</p>

ROUTE 15

AZIZIA—BIR KUKA—RAPTA—KIKLA

This road, which is not very well marked, is practicable for wheeled traffic as far as Rapta, after which it becomes a rocky mule track along the bed of the Wadi Sert.

Hours		
Inter- mediate	From Azizia	
3 15	3 15	<p>AZIZIA—BIR KUKA.</p> <p>Ground mixed with sand, but firm, level for first hour, then undulating. In the level part are the usual shrubs, in the rest scrub, pasture, and some bushes.</p> <p>Road practicable for motor traffic, with a fairly firm bottom even in summer.</p> <p>Bir Kuka is a large well with abundant water, with superstructure and drinking troughs. There are mulberry-trees round about.</p>
2 30	5 45	<p>BIR KUKA—HENSHIR EL ABIAD.</p> <p>Ground level and firm, bushes and scrub, pasture in the rainy season.</p> <p>Road as above, not well marked in some places.</p> <p>At Henshir el Abiad are two good cisterns at the side of the road with a superstructure and a few mulberry-trees.</p>
2 20	8 5	<p>HENSHIR EL ABIAD TO THE WADI RUMANA.</p> <p>Ground compact. Vegetation as above.</p> <p>Road as above.</p> <p>The gravelly bed of the Wadi Rumana is enclosed by fairly high but accessible banks.</p>

Hours		
Inter- mediate	From Azizia	
2 40	10 45	<p>THE WADI RUMANA—RAPTA EL GHARBIA.</p> <p>Ground compact and level with a few stones as it nears the mountains, bushes, and shrubs.</p> <p>Road is practicable for wheeled traffic, but sometimes stony. It crosses several wadis similar in character and difficulty to the Rumana. In 2 hrs. 10 mins. Rapta esh Sherkia is reached. It lies E. of the road at the foot of the Jebel. Here is a group of flourishing gardens and well cultivated kitchen gardens irrigated with water from an abundant spring. It is unprovided with canals, and is not drinkable. There are also a few houses.</p> <p>Rapta el Gharbia, on the r. bank of the Sert, W. of the road, is a village of about 60 houses in a small, fairly well cultivated oasis. It is irrigated by means of well-made canals from a spring of good and abundant water, 330 yds. away.</p>
4 0	14 45	<p>RAPTA EL GHARBIA—AIN TAKWIT.</p> <p>A broad valley with steep slopes, the bottom covered with boulders and pebbles, scattered shrubs and bushes, esparto grass.</p> <p>The road is no longer practicable for wheeled traffic, being very rocky. It gradually ascends the valley of the Sert, sometimes along the river-bed.</p> <p>Ain Takwit is a spring (enough water for 2,000 head of cattle per day) at the confluence of the Wadi Sert with the Wadi Bibuk, coming from Assaba. About $\frac{1}{2}$ m. distant is</p>

Hours		
Inter- mediate	From Azizia	
		the oasis of the same name, with some two score palms and a little spring. Good pasture-land near by.
4 0	18 45	AIN TAKWIT-KIKLA. Ground and road as above. Vegetation sparse; palms, figs, and other isolated trees; esparto grass; some stretches of cereals and pasture. In 2 hrs. the road joins the Misga-Kikla road (see Route 35).

ROUTE 16

AZIZIA—BIR EL GHANEM—KASR EL HAJJ—JOSH—
NALUT

This is a post road, practicable for wheeled traffic, sandy at first, rocky in the second half, where it runs along the foot-hills. Josh is the only telegraph station on the way.

Hours		
Inter- mediate	From Azizia	
4 0	4 0	AZIZIA TO THE BEGINNING OF THE HILLY ZONE (BU INEHMA HILL). For Azizia see p. 155. Ground level, but sandy for the first half of the way, in which the Wadi el Hira is lost; flat rocky stretches in the second half. Thick vegetation of shrubs and bushes; some mulberry-trees near the wells; here and there gardens and barley-fields. Road is practicable for wheeled traffic, but the bottom is not very firm in the dry

Hours Inter- mediate	From Azizia	
		<p>season. Motors sink easily, especially if they go off the track. To S. are left Bir Umm el Grun (50 mins. from Azizia) and Bir Ruba el Bahr (1 hr. 40 mins. from Azizia), both with frames and a pulley and good and abundant water.</p> <p>The pass of Bu Inehma is to the NNE. of the high hill of that name, which has a rounded summit visible at a great distance.</p>
3 0	7 0	<p>FROM THE BEGINNING OF THE HILLY ZONE TO BIR SULEIMAN.</p> <p>A region of little rocky hills called <i>Ihlah</i>, covered at the base with a thick layer of sand and lying in a horseshoe open towards N. At the NW. extremity is the striking conical hill of Ahmura crowned with the ruined fort of that name.</p> <p>Vegetation sparse and limited to an occasional fig-tree and scrub. In the basin formed by the <i>Ihlah</i> are several wells of moderate water (Bir Umm Eshweshu); there are others which are sanded up.</p> <p>Road as above.</p> <p>Bir Suleiman, on the l., is a well, 65 ft. deep, of good and abundant water, with frames and pulleys and drinking troughs.</p>
1 45	8 45	<p>BIR SULEIMAN—BIR MEDAKKIN.</p> <p>Slightly undulating, not very firm ground, covered with thick bushes and scrub.</p> <p>Road rather sandy.</p> <p>45 mins. from Bir Suleiman the road leaves about $\frac{3}{4}$ m. to N. Bir Lesham, with good and abundant water.</p>

Inter- mediate	Hours	From Azizia	
			<p>Bir Medakkin is cut out of the rock, has abundance of good water ; rough drinking troughs.</p> <p>The route here crosses the Zanzur-Yefren road (see Route 10, p. 261).</p>
4 30	13 15		<p>BIR MEDAKKIN—BIR EL GHANEM.</p> <p>Ground firm with rocky tracts, a little scrub and an occasional garden with fig-trees and barley-fields.</p> <p>The road bottom improves ; for the last $2\frac{1}{2}$ m. it is artificial.</p> <p>In 1 hr. 15 mins. it arrives at Bir Ksheb, a well N. of the road, 230 ft. deep, with abundant saline water and drinking troughs.</p> <p>Caravan roads branch off N. to Bir Osia and Zawia ; SW. to Bir Umm Jiwabi and Yefren ; SE. to Rapta.</p> <p>At Bir el Ghanem is a large well to S. of the road with a superstructure and drinking troughs. The water is abundant, but a little saline.</p> <p>$\frac{3}{4}$ m. to W. are a few houses and caves inhabited by about 200 Arabs.</p> <p>Capital of a Mudiria, residency, garrison.</p> <p>Meeting-place of the roads running between the oases of the coast and the plateau and the line of communication of the foot-hills.</p>
10 30	23 45		<p>BIR EL GHANEM—BIR BEIDA.</p> <p>In the hilly zone are many fields and gardens with great numbers of fig-trees. In the plain which follows it, firm and level, bounded on the N. by a very low line of hills, many wadis lose themselves, rendering</p>

Hours	
Inter- mediate	From Azizia

possible intensive cultivation of cereals on a large scale. There are also quantities of shrubs, bushes, and scrub and pasture in the rainy season.

Road practicable for wheeled traffic, with a rather irregular but fairly firm bottom.

It runs for $2\frac{1}{2}$ hrs. through the peculiar **Mshar** region; rocky conical hillocks covered with a deep layer of earth at the base, and then crosses the Wadi **Etel**, which loses itself some miles on in the plain.

The road, which has a firm and solid bottom, then becomes in stretches rocky but smooth.

5 hrs. from Bir el Ghanem it crosses the locality called '**Barley-fields**', a halting-place where water can be had if notice is given beforehand.

2 hrs. farther on it passes to N. the road to Bir el Mahmudia and Sorman (Route 19) and turns to SSW.

At **Bir Beida**, in a zone of thick shrubs, are three wells, of which only one has abundant drinkable water.

3 45 27 30 BIR BEIDA-KASR EL HAJJ.

Road runs along a strip of stony ground that follows the foot of the plateau and is from 6 m. to 9 m. in breadth. Vegetation of shrubs and small bushes.

The road is pebbly and practicable for wheeled traffic. It crosses the beds of various wadis, which are stony, narrow, and deep. After the third wadi motors leave the old track, turning directly towards Kasr el Hajj, thus saving $1\frac{1}{4}$ m.

Hours	
Inter- mediate	From Azizia

The crescent-shaped oasis of **Kasr el Hajj** is about $\frac{3}{4}$ m. to the NE. of the settlement of the same name (with about 300 inhabitants; a fort with store-rooms for cereals; a few houses), and has many springs with good water, containing a small amount of magnesia.

Garrison.

Mule-tracks go off: SSE. to Zintan (see Route 33), along the plateau road for wheeled traffic; SW. to Taredi and Jado, which are at a distance respectively of $3\frac{1}{2}$ hrs. and $5\frac{1}{2}$ hrs.

5 45 33 15 **KASR EL HAJJ—SHEKSHUK.**

The ground is similar to that previously described, but slightly undulating. There are some springs and wells to the S. of the road, in the hilly region which separates the road from the sheer walls of the plateau. Vegetation as above.

The new motor-track runs along the foot of the plateau and most frequently follows the line of the old caravan road. The old track, on the other hand, makes a big bend to the N. without, however, finding a better surface.

The **Shekshuk** oasis is at the foot of the mounds of detritus formed by the Wadi Sarga. This oasis is long and narrow, and is divided into two parts by some rising ground, upon which is the hamlet of the same name, with about 160 inhabitants.

There are numerous springs in this oasis. The best water is to be found on the western side. There are outcrops of lignite in the

Hours			
Inter- mediate		From Azizia	
			E. part, on the extreme edge of which is the little settlement of Massida. The road passes about $\frac{3}{4}$ m. to the N. A branch mule-track goes S. to Jado (see Route 25), 3 hrs. away on the plateau road for wheeled traffic.
7 0	40 15		SHEKSHUK—JOSH. Ground and vegetation as above. The road gradually recedes from the plateau, but retains the same characteristics. There are some springs of excellent water in the beds of the different wadis, to the S. of the road, at a distance of not more than 1 hr. For Josh see p. 150. There is a wooden bridge over a small stream beyond Seghir. Mule-tracks branch off SE. to Kerba and SSW. to Dejj and Merghes.
7 30	47 45		JOSH—TIZI. Road, ground, and vegetation as above. There are a few houses at Tizi . Also a small oasis, some wells, and an abundant spring with slightly sulphurous water. Branch road goes S. to Kabao.
12 0	59 45		TIZI—NALUT. Road, ground, and vegetation as above. $1\frac{1}{2}$ hrs. before arriving at Nalut, at a point where a caravan road branches off to Tirikt and Kabao, is Kasr Derj. Kasr Derj consists of a group of caves, with about 30 inhabitants. There are some palms and fig-trees in the vicinity. For Nalut see p. 148.

ROUTE 17

ZAWIA—BIR OSIA—BIR GHEBABIA—BIR EL
GHANEM—BIR BEHEIRA—YEFREN

The greater part of the road is practicable for wheeled traffic. For the first hr. there are sand-dunes, which make it difficult for traffic during the dry season.

Hours		
Inter- mediate	From Zawia	
0 45	0 45	ZAWIA (KASR) TO THE SOUTHERN EDGE OF THE OASIS. The oasis is flat and closely grown, and has many wells. The water is saline in some of them. Plan, p. 131. The road has a firm bottom and is practicable for wheeled traffic. $\frac{1}{2}$ hr. to the W. of the <i>Suk</i> it turns off towards the S. from the Sorman carriage road, near a bare expanse, where there is a large cemetery.
4 15	5 0	FROM THE SOUTHERN EDGE OF THE OASIS TO BIR OSIA. There are lines of dunes for the first hr. Afterwards slight undulations with a firm bottom. Scanty scrub and a few <i>gandul</i> bushes. There is a small amount of pasture during the rainy season. The road is fatiguing during the summer months owing to the sand, but is practicable for wheeled traffic. Bir Jedid (in construction) is about half-way. Bir Osia is situated in the centre of a level and earthy region, and is surrounded by many

Hours		
Inter- mediate	From Zawia	
		bushes. There are four wells, 20 ft. deep, on the road. Water good and abundant.
		Branch road goes S. to Bir el Ghanem. This road saves about $1\frac{1}{2}$ hrs. (see Route 17 A).
3 0	8 0	BIR OSIA—BIR AZZEDIN (NURDIN).
		The ground is level and fairly firm. Some stretches of sand-hill.
		Scrub; pasture during the wet season; some bushes of <i>gandul</i> and <i>sebbat</i> .
		The road is hard and firm. In the last hr. it crosses a region of low dunes.
		Bir Azzedin , to the SE., is a well, 72 ft. deep, with good and relatively abundant water.
2 15	10 15	BIR AZZEDIN (NURDIN)—BIR GHEBABIA.
		Road, ground, and vegetation as above.
		After about 2 hrs. the road rejoins the Bu Aissa—Bir el Ghanem road (see Route 18).
		Bir Ghebabia , to the W., is a well, 85 ft. deep, with good but not very abundant water.
5 15	15 30	BIR GHEBABIA—BIR EL GHANEM.
		The ground is undulating for the first 3 hrs. Then it becomes flat and hard. Scanty bushes, and pasture during the rainy season. Some patches of barley and gardens with fig-trees in the neighbourhood of Bir el Ghanem.
		The road has a firm bottom; it is somewhat fatiguing during the 2nd and 3rd hrs., when it crosses the sandy heights of El

Inter- mediate	Hours	From Zawia	
			Total hours
			Gunna, on which the ruined Kasr Jedid is visible some m. to W. The caravans sometimes take the following road, which is less direct than that described. It turns off SW. some m. from Bir Ghebabia.
	2 30		Bir Ghebabia—Bir el Gderia , well, 33 ft. deep, water for animals.
	4 15		Bir el Gderia—Bir Shamer , well, 23 ft. deep, water scanty and only for animals.
	5 45		Bir Shamer—Bir el Ghanem .
			For Bir el Ghanem see p. 281.
4 0	19 30		BIR EL GHANEM TO THE WADI ETEL.
			The ground at first is level, afterwards it is the characteristic Mshar region, rocky hillocks covered at the base with a deep layer of earth.
			There is a large number of fig-trees, fields, gardens, and patches of cereals. Pasture throughout the whole year.
			The road is good, and practicable for wheeled traffic. There is an ascent between $\frac{3}{4}$ hr. and $1\frac{1}{4}$ hrs. from Bir el Ghanem.
			The Wadi Etel takes its name from the thick bushes of this poor shrub, which cover its bed. The bed is enclosed between low steep sides.
3 0	22 30		THE WADI ETEL—BIR BEHEIRA.
			Level and firm ground with stretches of solid rock. Broad belts cultivated with barley, occasional bushes.

Inter- mediate	Hours	From Zawia	
			<p>Road as above. The direction is given by two big isolated towers (Kusbat el Beheira) about $1\frac{1}{4}$ m. to N. of the Bir of that name.</p> <p>Bir Beheira, to the W., is a Roman well about 164 ft. deep with muddy water barely drinkable for horses. Many troughs.</p>
2 45	25 15		<p>BIR BEHEIRA—BIR EL ABIAT.</p> <p>Ground stony and undulating, especially for the first half of the way, where is seen the characteristic outline of a flat-topped elevation, crowned by Kasr Beni Heran, about 3 m. to E. Various river beds.</p> <p>Vegetation of shrubs, bushes, isolated palms, and a few gardens.</p> <p>Road as above. After about 1 hr. it crosses the Wadi Rumia ; then follows its course, for 1 hr. on the r. bank, then on the l.</p> <p>1 hr. 15 mins. from Bir Beheira to W. are two wells with bad and scanty water (Dar el Kelb) in a zone of thick shrubs with a few palms. A road goes off NW. to Bir el Mahmudia.</p> <p>At Bir el Abiat is a well of good and abundant water to SE., and a few gardens with palms in the neighbourhood. There are other wells in the valley beginning below Yefren.</p>
1 0	26 15		<p>BIR EL ABIAT—KASR YEFREN.</p> <p>Ground rocky. Occasional palms and shrubs on the mountain slopes ; barley-fields and fine olive-groves on the plateau.</p> <p>The road, practicable the whole way for wheeled traffic, begins after a few mins. to</p>

Hours		
Inter- mediate	From Zawia	
		ascend to the plateau with a fairly steep incline.
		The top is reached at Tagherbost , a village of about 100 houses with many cisterns to E. (45 mins. away). A few mins. further on the road to Tagma forks to E.

ROUTE 17 A

BIR OSIA—BIR AHSEN—BIR EL GHANEM

A caravan road probably practicable for wheeled traffic. It is the shortest of the many tracks.

Hours		
Inter- mediate	From Bir Osia	
2 30	2 30	BIR OSIA—BIR AHSEN.
		Gently undulating ground with dunes for the last hr. Various shrubs and pasture.
		The road is a caravan road with a fairly firm bottom.
		Bir Ahsen is a well, 40 ft. deep, to E. of the road with good water.
1 30	4 0	BIR AHSEN—BIR MHADA.
		Ground, vegetation, and road as above.
		Bir Mhada has a well 50 ft. deep, of good water, to E.
5 0	9 0	BIR MHADA—BIR EL GHANEM.
		Vegetation as above : in the last hr. a few gardens and intensive barley cultivation.
		Road as above ; rather difficult in summer, crossing a zone of low hills covered with dunes which starts 1 hr. S. of Mhada. The rest of the way is fairly level and firm (Plain of Gattis).
		For Bir el Ghanem see p. 281.

ROUTE 18

ZAWIA—BIR EL HAMRA—BIR EL GHANEM—BIAR
FASSA—YEFREN

A good caravan road practicable for wheeled traffic as far as Biar Fassa. For the first $2\frac{1}{2}$ hrs. there is some difficulty in summer owing to the sandy zone which is crossed.

Hours		
Inter- mediate	From Zawia	
2 30	2 30	ZAWIA—BU AISSA. See Route 11.
1 15	3 45	BU AISSA—BIR EL HAMRA. Ground undulating and not very firm the first half of the way, then a depression with a firm level surface, called As el Hamra, on the S. side of which is the Bir el Hamra. Scrub, pasture, and fields of barley. A good caravan road, practicable for wheeled traffic, but rather difficult owing to the soft bottom. It leaves the Zawia-Sorman road at the cross-roads in the oasis 550 yds. from the E. edge. See Route 11. In a few mins. it passes the hamlet of Bu Aissa and emerges from the oasis which extends along the W. side for a short distance. After 50 mins. it arrives at several gardens. At Bir el Hamra is a little oasis to E. of the road with four houses and ten wells, 26 ft. deep, with good and abundant water. Caravan roads branch off NW. to Sorman (1 hr distant) and NE. to Sabria (1 hr. 30 mins. distant) or to Zawia (not much used).

Hours		
Inter- mediate	From Zawia	
2 30	6 15	BIR EL HAMRA—BIR RETEM. Ground undulating and firm. Scrub and <i>gandul</i> bushes. Road practicable for wheeled traffic. For the first 15 mins. it is sandy, crossing a zone of low dunes. Then the bottom becomes hard. After 1 hr. Bir Kureitim is passed to E. It is a well, 40 ft. deep, with good and abundant water. Bir Retem to the E. is a large well, about 65 ft. deep, of good and abundant water.
0	10 15	BIR RETEM—BIR URSHEFANIA. Ground and road as above. Scrub and <i>sebbat</i> bushes. Both Bir Tweli Lalam , reached in 1 hr. 15 mins. and the large Bir Jedeida , 2 hrs. further on and W. of the road, have good and abundant water, slightly saline, 72 ft. deep. Bir Urshefania is a well, 69 ft. deep, with good and abundant water.
2 0	12 15	BIR URSHEFANIA—BIR GHEBABIA. Ground and road as above; vegetation more scanty. In 45 mins. Bir Maguz is reached, with good water, 65 ft. deep; 45 mins. further on the road meets the Zawia—Bir Azzedin—Yefren road. For Bir Ghebabia see p. 286.
5 15	17 30	BIR GHEBABIA—BIR EL GHANEM. See Route 17.

Hours		
Inter- mediate	From Zawia	
6 0	23 30	<p>BIR EL GHANEM—BIAR FASSA' (WADI SHEIKH).</p> <p>For the first 3 hrs. the characteristic Mshar region, hillocks and earth (see Route 17), then a hard, stony plain with many <i>sudder</i> shrubs and bushes of various kinds.</p> <p>A good caravan road with a firm bottom, practicable for motor cars.</p> <p>After crossing for $\frac{3}{4}$ hr. the hard Gattis plain the road ascends for $\frac{1}{2}$ hr. and then, leaving the Bir el Ghanem—Yefren road, proceeds towards the S.</p> <p>Biar Fassa is a village of a score of houses, situated on the road in a zone of low hills. The abundant spring of the same name, containing a little magnesia, is about $1\frac{1}{2}$ m. further on, on the r. bank of the Wadi Sheikh, which is too deeply cut to allow wheeled traffic to cross.</p>
3 0	26 30	<p>BIAR FASSA (WADI SHEIKH)—TAGMA EL OTI.</p> <p>Ground rocky and stony for a great part of the way; hills of detritus below the plateau in the Sheikh valley, slight undulations with ravines between on the plateau. A few bushes and isolated palms in the low ground; olives and barley fields higher up.</p> <p>Road is not practicable for wheeled traffic; it is a mediocre caravan road, rocky and rising considerably for about $1\frac{1}{2}$ hr., then a winding mule track, rather steep and broken by slabs and boulders, which ascends the side of the plateau for $\frac{3}{4}$ hr.; it improves in the last stretch.</p>

Inter- mediate	Hours	From Zawia	
			At Tagma el Oti , SW. of the road, are about 50 houses with cisterns. A marabut on the opposite side of the road. About $1\frac{1}{2}$ m. to SE. and on higher ground is the similar Tagma el Fogi (see Route 10).
1 10	27 40		TAGMA EL OTI—GUSIR. After passing a road turning off E. to Bir Umm Jiwabi and Zanzur (see Route 10) the road, continuing a good mule track, turns to S. of a deep valley, keeping half-way up the slope and rising gently until it arrives in 2 hrs. 40 mins. at the mosque to the W. on the highest point in the vicinity and therefore visible from the plain at a great distance. Gusir to NW. is a village of about 40 houses with cisterns.
5 50	33 30		GUSIR—YEFREN. Ground and vegetation as above. Road practicable for wheeled traffic and has a firm bottom. It descends suddenly into a little valley, where there is a well of good and abundant water, and then reascends to the village of Maniin (25 mins. from Gusir) with 50 houses, several cisterns and two wells of good and abundant water. The last stretch of the road is level. For Yefren see p. 151.

ROUTE 19

SORMAN—BIR ABEDA—KASR EL HAJJ

A caravan road which is almost always practicable for wheeled traffic, but rather difficult in the first stretch and at half-way on account of sandy undulations. The itinerary depends on native information except for the stage Saniet et Tleb—Bir Abeda and the last stage of 9 hrs. into Kasr el Hajj.

Hours		
Inter-mediate	From Sorman	
1 15	1 15	SORMAN—UMM EL HASHAN. In the region SW. of the oasis there are sandy tracts and tracts of <i>sebkha</i> to cross. Road practicable for wheeled traffic only with difficulty. After crossing a line of dunes the very small oasis of Umm el Hashan , with several wells of good drinking water, is reached.
2 0	3 15	UMM EL HASHAN—SANIET ET TLEB. Ground firm with gentle undulations; poor pastureland and a few shrubs. A caravan road practicable for wheeled traffic. At Saniet et Tleb is a well about 40 ft. deep and a little to S. another well of the same depth (Garablia); both have scanty and indifferent water. Camps in the neighbourhood
2 0	5 15	SANIET ET TLEB—BIR ABEDA. Ground, vegetation, and road as above. 30 min. before Bir Abeda is a well (Shinai Bia), about 50 ft. deep, with a little poor

Inter- mediate	Hours From Sorman	
		water. In the neighbourhood are Arab camps with many cattle. At Bir Abeda there is good and abundant water.
2 0	7 15	BIR ABEDA—SANIET ET TURK. At Saniet et Turk are a few trees and a well, 50 ft. deep, with good and abundant water.
2 0	9 15	SANIET ET TURK—BIR EL KREJI. Ground, vegetation, and road similar to the stretch beyond Umm el Hashan. Bir el Kreji is a well about $\frac{3}{4}$ m. E. of the road, with good and abundant water.
3 0	13 45	BIR EL KREJI—SANIET EL MAATNANIA. Ground, vegetation, and road as above. At Saniet el Maatnania is a well of good and abundant water. A road goes off SW. to Gherad Attini (4 hrs. 30 mins.), a point where the roads coming from Ajilat, Hodh, and Kasr el Hajj cross.
1 30	10 45	SANIET EL MAATNANIA—BU AISIA. Ground, vegetation, and road as above for the first 2 hrs. Then the road enters a zone of low, sandy hills. At Bu Aisia is a well of indifferent water.
3 0	16 45	BU AISIA TO THE CROSSING OF THE BIR EL GHANEM—KASR EL HAJJ ROAD FOR WHEELED TRAFFIC. Vegetation as above. The caravan road runs through undulating and sandy ground, and is practicable for

Hours	
Inter- mediate	From Sorman

wheeled traffic with difficulty. After about 1 hr., road passes a well, which lies in a kind of pass, between two small heights (**Khurmet Gaber Ukshir**). This well is often sanded up.

1½ hr. before the cross-road is the **Mahmudia** well, which lies to the W. of the road. The water from this well is abundant, though muddy. 50 mins. on the **Bu Twila** well is passed. This well is partly buried.

The cross-road is at the bend, where the road practicable for wheeled traffic coming from Bir el Ghanem turns S.

A road goes off SE. to Bir Beheira near the Bir el Ghanem-Yefren road (see Route 17).

9 0 25 45

FROM THE ABOVE CROSSING TO KASR EL HAJJ.

See Route 16.

ROUTE 20

ZAWIA—BIR ABEDA—HODH—SHEKSHUK—JADO

The caravan road passes almost the whole way over undulating and firm ground which is not difficult for vehicles, and moreover all the surrounding region is traversable in every direction. From Shekshuk to Jado, the road increases in difficulty, until it finally becomes a rough and stony path, by which the ascent to the terrace of the Jebel is made.

Hours	
Inter- mediate	From Zawia
2 30	2 30

ZAWIA—BU AISSA.

See Route 11 (p. 267).

Hours		
Inter- mediate	From Zawia	
1 15	3 45	BU. AISSA—BIR EL HAMRA. See Route 18 (p. 290).
2 30	6 15	BIR EL HAMRA—SANIET ET TLEB. There is some pasture; bushes here and there. The caravan route passes along flat and hard ground, and is easy for vehicles. For Saniet et Tleb , see p. 294.
2 0	8 15	SANIET ET TLEB—BIR ABEDA. See Route 19 (p. 294).
1 0	9 15	BIR ABEDA—JAFRIA. Road, ground, and vegetation as above. There is a well at Jafria , 50 ft. deep. The water from this well is drinkable, but scanty. There is an Arab camp and cattle.
1 0	10 15	JAFRIA—GHERRADIA. Ground and vegetation as in the preceding stages. The caravan road is well marked and runs in a SW. direction. Gherradia has a well 82 ft. deep, with a scanty supply of poor water.
3 45	14 0	GHERRADIA—HODH. Road, ground, and vegetation as above. Hodh gives its name to the Mudiria, with a total population of about 13,000 inhabitants. These people are all scattered in encampments through this vast territory. The Mudir resided at Bir el Ghanem. There is a large well of inferior water.

Hours				
Inter- mediate		From Zawia		
				It is said that there are old artesian wells with an abundance of water in this locality, which are now blocked up. It seems that some experiments have been made recently to tap the water of the sub-soil, with good results.
11 0		25 0		HODH—SHEKSHUK.
				Only scanty information is to be had as to this section of the road. But it is probable that the characteristics of this stretch and the surrounding country are similar to those which precede it.
				For Shekshuk , see p. 283.
3 0		28 0		SHEKSHUK—JADO.
				See Route 25 (p. 312).

ROUTE 21

AJILAT—BIR MISHED—KASR EL HAJJ—JADO

A caravan road everywhere clearly marked. It is practicable for wheeled traffic without any difficulty, until it reaches Kasr el Hajj. This also applies to most of the surrounding country. From Kasr el Hajj the ascent to the Jebel is made by a mule track, which in the last stretch becomes a difficult and tortuous path.

Hours				
Inter- mediate		From Ajilat		
3 0		3 0		AJILAT—BIR ZAFRANA.
				Road has a sandy bottom for a mile or so through the oasis. It then traverses a zone

Hours		
Inter- mediate	From Ajilat	
		of sand dunes which is rather difficult for wheeled traffic and then emerges into level country in which are many tracks going in every direction. The vegetation in this last stretch consists of shrubs and poor pastureland.
		Bir Zafrana (not found by the detachments which made this journey) seems to be a well of quite abundant but indifferent water.
4 0	7 0	BIR ZAFRANA—BIR BEN NAWAS. Ground level with a firm bottom. Shrubs and pastureland. Road as above. The natives say there is good and abundant water at Bir Ben Nawas .
3 0	10 0	BIR BEN NAWAS—TWIL MERSID. Ground and road as above, with gentle undulations in the last stretch. At Twil Mersid there is said to be a little spring.
1 30	11 30	TWIL MERSID—GHERAD ATTINI. The road enters a zone of close grass-grown dunes where wheeled traffic is rather impeded. At Gherad Attini several caravan roads cross (see Route 19). $\frac{3}{4}$ m. to E. of this is a well, 160 ft. deep, with water for animals.
1 30	13 0	GHERAD ATTINI—BIR MISHED. Road practicable for wheeled traffic with some difficulty, in undulating ground. The well of Mished (100 ft. deep) is in

Hours		
Inter- mediate	From Ajilat	
		a kind of dip, and has abundant water, a little bitter but drinkable.
9 0	22 0	BIR MISHED—KASR EL HAJJ. Pasture-land and shrubs ; barley fields here and there ; nomadic tribes camp here in sowing and reaping times. The road traverses for some time the hilly region around Bir Mished and then gets level. 2 hrs. or so from Kasr el Hajj the ground gets stony and is crossed by little wadis. Some difficulty for wheeled traffic in the first and last stretches. For Kasr el Hajj , see p. 283.
3 30	25 30	KASR EL-HAJJ—TAREDI. Stony ground, crossed by little wadis for the first hr., then by valleys with rugged, rocky slopes. Scanty shrubs and some isolated palms. A caravan road not practicable for wheeled traffic gradually rising. It goes up the Wadi Taredi and on nearing the mountain becomes a mule track, with gradients difficult even for horses, and dangerous to descend, especially in the last $1\frac{1}{4}$ m. In the Wadi Taredi there are several springs of good water, to find which a guide is needed. Taredi is the capital of the Mudiria of Rusban (<i>kaza</i> of Jado), with about 1,000 inhabitants. The houses are in part subterranean ; there is a senussi <i>zawia</i> . Many well-kept cisterns with good water.

Hours	
Inter- mediate	From Ajilat
2 0	27 30

TAREDI—JADO.

Ground undulating ; various kinds of cultivation, fields, a few gardens, and olive-trees fairly thick in the environs of Taredi and Jado.

A caravan road with a firm bottom ; practicable with difficulty for wheeled traffic owing to the considerable gradients.

For **Jado**, see p. 150.

ROUTE 22

KASR EL HAJJ—ZINTAN

A mule track similar in character to that which runs from Kasr el Hajj to Jado (see Route 21), but less difficult in the ascent of the terrace of the Jebel.

Hours	
Inter- mediate	From Kasr el Hajj
2 30	2 30

KASR EL HAJJ TO THE WADI RUSBAN.

For **Kasr el Hajj**, see p 283.

There are a few shrubs and bushes.

The road is a mule track with a gradual rise, difficult for wheeled traffic on account of the stony foot-hills.

Half-way it leaves some hundreds of yds. to E. the place called **Tarfaya**.

The Wadi **Rusban**, like all the wadis which descend from the Jebel, carries down great quantities of stones, and this makes all the roads which ascend to the Jebel by means of its bed difficult.

Hours	
Inter- mediate	From Kasr el Hajj
1 30	4 0

THE WADI RUSBAN—ZINTAN.

Ground rocky and almost bare of cultivation ; a few olives and palms.

A mule track with a mean gradient of 1 in 10 ; rocky bottom, some stretches sanded up.

After the Rusban is crossed, **El Kosha** and **El Marsa**, where there are some caves, are reached. They are separated by an affluent of the Rusban. From here the track runs along the western slope of the Wadi **Musalarin** (another affluent of the Rusban) and ascends the terrace of the Jebel with many twists. At one point a gradient of 1 in $3\frac{1}{2}$ is reached. A mile or so beyond this the ruins of **Kasr Shentira** are seen to W., and to E. is the spring of **Musalarin** with excellent and abundant water ($5\frac{1}{2}$ galls. per sec.).

Having ascended another terrace with a gradient of 1 in $3\frac{1}{2}$ the road passes the group of dwellings of the **Aulad Ben Hol** and arrives at the **Kabila** of the **Aulad Aissa**, capital of the Mudiria of Zintan.

For **Zintan**, see p. 150.

ROUTE 23

AJILAT—AAGHARBIA—BASSRIAH—FRONTIER

Ordinarily called the 5th caravan road. Practicable for vehicles practically throughout. Not much used and little known from Aagarbia westwards.

Hours		
Inter- mediate	From Ajilat	
2 30	2 30	AJILAT—SDIDA
		For Ajilat , see p. 130.
		Ground level. Thin scrub and pasture in the wet season.
		Road is practicable for wheeled traffic, but difficult in some sandy places.
		It leaves Ajilat in a W. dir., goes S. round some shifting dunes, and then turns NW. and finally W. In about 1 hr. it leaves a cemetery to N., further on a house and enters the <i>sebkha</i> of Aulad Hamed . As far as this point the road runs through the palms of the oasis of Ajilat and the track is often lost beneath the sand.
		After crossing the <i>sebkha</i> for 20 mins. it enters the rather thin oasis of Sdida , with a well of good water and an inhabited house.
5 30	8 0	SDIDA—AAGHARBIA.
		Ground is level and practicable for wheeled traffic in every dir. Vegetation and road as above.
		For Aagharbia , see p. 308.
		Branch roads: N. to Mensha and Jemil; NW. to Rejdalin.

Hours		
Inter- mediate	From Ajilat	
11 0	19 0	AAGHARBIA—BASSRIAH. Vegetation as above. The road runs through level ground. It is little frequented and little known. 3 hrs. from Bassriah it enters the salt marsh of Yedder , which takes about 2 hrs. to cross. At Bassriah in a little hollow are several wells with water containing a little magnesia.
2 30	21 30	BASSRIAH TO THE FRONTIER. Tracks through hilly ground.

ROUTE 24

AJILAT—JEMIL—REJDALIN—OGLET EL GRIAA—
BEN GHARDAN

Commonly called the 3rd caravan road. It crosses the middle zone of the territory of the Kaza of Zwara. Practicable for wheeled traffic but difficult in wet weather in the salt marshes and in dry weather in the sandy tracts. It is the most important and frequented line of communication between Ajilat and Ben Ghardan and between Zwara, which is connected with it by the Zwara-Rejdalín road (see Route 26), and Ben Ghardan (see Route 6).

Hours		
Inter- mediate	From Ajilat	
4 30	4 30	AJILAT—SHIBIHAN. For Ajilat , see p. 130. The road, which is with difficulty practicable for wheeled traffic, leaves the Ajilat-Mellita road a little to the N. of the fort.

Inter- mediate	Hours From Ajilat	
		<p>It crosses for a couple of m. a zone of sandy dunes and then another stretch of the oasis of Ajilat. In emerging from this it crosses undulating country for a couple of m. and then enters the <i>sebkha</i> of Aulad Hamed, which it leaves a little before arriving at the little oasis of Shibihan, where there are several houses and gardens and some wells of indifferent water.</p>
1 30	6 0	<p>SHIBIHAN—JENAN BEN NASIB.</p> <p>Level road, practicable for wheeled traffic, with sandy stretches.</p> <p>Jenan Ben Nasib is a little oasis with 2 or 3 houses and 15 wells; about 200 inhabitants.</p>
2 30	8 30	<p>JENAN BEN NASIB—JEMIL.</p> <p>Sandy ground.</p> <p>Road is with difficulty practicable for wheeled traffic; it crosses the oasis of Mensha and enters that of Jemil, which is practically a continuation of it.</p> <p>For both these, see Route 25.</p>
2 0	10 30	<p>JEMIL—REJDALIN.</p> <p>Road in part artificial, practicable for wheeled traffic; rather sandy.</p> <p>Rejdalin is a village with a fort in the centre of the Rejdalin oasis, the most important of the district after that of Zwara. Inhabitants about 1,200. Many wells with rather good water.</p> <p>From Rejdalin roads go off: N.E. to Zwara; NW. to Zelten; WSW. to the</p>

Hours		From Ajilat	
Inter- mediate			
			Hassa of the Nawayil. All these are practicable for wheeled traffic.
5 0	15 30		REJDALIN-BERGHEYET ESSETAL. A caravan road, sandy near Rejdalin, then level and firm. A couple of m. to N. of Bergheyet Essetal is the hill of El Kwif and some distance to S. the wells of Bu Sheg with water not fit for human consumption.
6 0	21 30		BERGHEYET ESSETAL TO THE FRONTIER (OGLET EL GRIAA). Ground and road fairly level. The road crosses the undulating region of Vaya and then the salt marsh of Yeddar (hardly possible to cross in the rainy season). No water. The wells of Semen and Ben Abbas, a m. or so to S. of the road and a couple of hrs. before the frontier, are not drinkable for man. After crossing the hilly zone of Bu Sheref , the road enters the Wadi Mogta which is difficult to cross, and arrives at the Frontier . From Bu Sheref a track goes S. to Jebibina (2 hrs.) where there are two wells of saline water and one fairly sweet.
9 0	30 30		FROM THE FRONTIER TO BEN GHARDAN. Road practicable for wheeled traffic with a hard <i>sebkha</i> bottom. Ben Ghardan , ancient capital of the Nawayil, has become of late years a veritable town. It is the chief market where the people of Zwara and the Nawayil traffic with the peoples beyond the frontier. It is surrounded by a flourishing oasis.

ROUTE 25

ZWARA—AAGHARBIA—SEGHIR—KSUR RODDU—
JADO

Practicable for wheeled traffic but difficult as far as Seghir, where the proper road stops, to reappear to S. of the hilly zone called El Halab, near Ksur Roddu, whence it continues clearly marked as far as Jado.

Hours		
Inter- mediate	From Zwara	
1 45	1 45	ZWARA—SIDI ABDESSAMAD.
		For Zwara , see p. 128.
		The road has recently been adapted for wheeled traffic.
		The ground is hard <i>sebkha</i> for 15 mins., as far as an olive-grove with an oil-press. Thence the road crosses a second line of oasis, which runs parallel to that of Zwara and after passing over another stretch of <i>sebkha</i> , the road enters a hilly region.
		The marabut of Sidi Abdessamad , with two small cupolas, is visible from a distance. There is a large number of gardens with palms in the vicinity. Also a few houses and wells of drinkable water.
		The road forks at the bottom of the hill with the marabut. The SW. branch goes to Rejdalin, and that followed here SE. to Jemil.
1 0	2 45	SIDI ABDESSAMAD—JEMIL.
		There are a few cultivated enclosures, and some little fields. Pasture during the rainy season.

Hours		
Inter- mediate	From Zwara	
		<p>The road is practicable for wheeled traffic, but it is difficult on account of the softness of the bottom and through being in parts sandy or undulating.</p> <p>Jemil is almost at the extreme western limits of the oasis of the same name. It is a village consisting of a score of houses. There is a scattered population of about 600 persons. Royal Carabineer station and Beladie. There are many wells with a drinkable and abundant supply of water.</p>
2 30	5 15	<p>JEMIL—AAGHARBIA.</p> <p>Road as in the preceding stretch. It proceeds for a few m. through the oasis of Jemil. Outside this oasis as far as the marabut of Bu Nuar there are many palm-trees, and gardens with some houses. The marabut of Bu Nuar lies about 100 yds. to the E. and dominates the road.</p> <p>The country then becomes completely deserted, and the track is frequently lost. The wells of Umm el Abish and of Lezier, which are on the road, have water that is only suitable for animals.</p> <p>Aagharbia is a small hollow, about 1 m. long and 550 yds. broad, lying SW.—NE.</p> <p>There is a station of gendarmes to guard the wells, which number about 20, but the greater part of them are buried. A few only are in working order. The water is drinkable.</p>
3 0	8 15	<p>AAGHARBIA—DEBDABA.</p> <p>The ground is undulating, suitable for pasture.</p>

Inter- mediate	Hours	From Zwara	
			Road as above. There is a cemetery at Debdaba . Also two wells, 26 ft. deep, of saline water suitable only for animals.
2 0	10 15		DEBDABA—SEGHIR. Road and ground as above. There are five or six wells at Seghir . The water is only suitable for animals. The caravan road that has been traced stops at this point. There is a shorter way from Seghir to Shekshuk, viz. Seghir-Hodh, 8 hrs.; Hodh-Shekshuk, 11 hrs. But there is no certain information about the road or country.
6 0	16 15		SEGHIR—ZAUTI. The ground is level <i>sebkha</i> (the eastern extension of the great Shareb Essawadi <i>sebkha</i>). At half-way there is a region of dunes E. of which is the Ghedir Bel Azreg marsh. About 1 hr. from Ghedir Bel Azreg, the road enters a region of small dunes covered with bushes. The movement of vehicles becomes increasingly difficult in this region. At Zauti there are two wells, 33 ft. deep, of saline water only suitable for animals.
1 0	17 15		ZAUTI—WOTIA. The characteristics of the ground are as before, but more accentuated. Wotia is a region of shifting sand. The bottom of the small valleys which intersect

Inter- mediate	Hours	From Zwara	
			it is dotted with small bushy mounds which make it impossible for any kind of vehicle to pass. There is a level region to the SE. of the principal height where there are six wells, 26 ft. deep. The water from them remains sweet and drinkable until July, after which it becomes saline.
2 0	19 15		<p>WOTIA-LHEBILIA.</p> <p>Ground as above. It is fatiguing for pedestrians and not practicable for wheeled traffic.</p> <p>There are ten wells at Lhebilia, 50–65 feet deep. The water is drinkable though saline.</p>
4 0	23 15		<p>LHEBILIA-KSUR RODDU.</p> <p>The ground is not practicable for wheeled traffic, but it is less difficult than in the preceding stage. Some meagre pasture.</p> <p>Ksur Roddu is a ruined fort, perhaps Roman, partly buried by the sand. Other ruins in the neighbourhood. There are also wells, in some of which there is drinkable water.</p>
1 30	24 45		<p>KSUR RODDU-EL HAMRA.</p> <p>This region is sandy and bush-covered. It is impracticable for wheeled traffic. After it, near El Hamra, the road enters the region of Bahaira, which is cultivated with barley. There are also <i>ethel</i> bushes.</p> <p>The caravan road Shekshuk-Jado reappears.</p> <p>El Hamra has well with water containing a small quantity of magnesia.</p>

Hours		
Inter- mediate	From Zwara	
4 30	29 15	EL HAMRA—LETTLA.
		The caravan road is practicable for wheeled traffic with some difficulty. It runs in the large Bahiret Roddu , and for 1 hr. follows the bed of the wadi of the same name. It next leaves the bed of the wadi, and turns NE.
		The three wells of Swani el Hardi , with good water, are 30 mins. W. of the road, at $1\frac{1}{2}$ hrs. from El Hamra .
		There are four or five wells at Lettla , $\frac{3}{4}$ m. W. of the road. The water is good, provided that the wells are cleaned out.
4 0	33 15	LETTLA—STEL.
		The ground is level, uncultivated, and stony. It is with difficulty practicable for wheeled traffic.
		Road crosses the Wadi Lettla , and leaves the Bahaira.
		There are two shallow wells at Stel . Also a spring of good water in the wadi of the same name.
1 15	34 30	STEL—SHEKSHUK.
		Road and ground as above.
		The Josh—Kasr el Hajj road, practicable for wheeled traffic, which passes within a few m. of the Shekshuk oasis, is crossed.
		Shekshuk is a small village situated on a height, which divides the oasis of the same name into two parts. In both parts there are springs of good water, containing a very small quantity of magnesia.
		To the E. of the settlement there are outcrops of lignite and iron ore.

Hours	
Inter- mediate	From Zwara
2 0	36 30

SHEKSHUK—JENNAUN.

The road is stony and not practicable for wheeled traffic. There are some cisterns at half-way.

The road enters between the slopes of the Jebel, following in part the bed of the Wadi **Jennaun**, which is shut in between steep sides. There are level and cultivated stretches in the adjacent country. There are isolated palm-trees on the slopes.

Jennaun is a small village W. of the oasis of the same name, which is very flourishing. This oasis is situated on artificial terraces in the side of the mountain facing N.

Excellent and abundant water in the spring **Tmoghet**, which irrigates the oasis.

1 0	37 30
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JENNAUN—JADO.

Steep road strewn with boulders, difficult for riding, especially over the descent.

For **Jado**, see p. 150.

ROUTE 26

**ZWARA—REJDALIN—THE HASSA OF THE NAWAYIL
—KASR BISHUL—ZIGZAU—NALUT**

The road is practicable for wheeled traffic in part; well trodden as far as Hassa (the so-called 4th caravan road), less so up to Goradia. From here to the foot of the Jebel there is no track, but from observations made on a reconnaissance by motor it appears that the line described in this

route could easily be turned into a road fit for wheeled traffic.

Hours		
Inter- mediate	From Zwara	
1 45	1 45	ZWARA—SIDI ABDESSAMAD. See Route 25.
2 0	3 45	SIDI ABDESSAMAD—REJDALIN. Road rather sandy, put into order as in the preceding stage. For Rejdalín , see p. 305.
1 30	5 15	REJDALIN—BERGHEYET EL HANANSHA. Road practicable for wheeled traffic. Undulating ground, sandy for the first $1\frac{1}{4}$ m. At Bergheyet el Hanansha two wells of saline, but drinkable water.
7 30	12 45	BERGHEYET EL HANANSHA TO THE HASSA OF THE NAWAYIL. Road level with a solid bottom, indicated by a number of tracks. Some slight elevations in the ground: the two hills, Ajar es Seghir and Ajar el Kebir, before the <i>sebkha</i> of Jedder are noticeable. This <i>sebkha</i> is crossed 1 hr. from Hassa. It is marshy in wet weather. The Hassa of the Nawayil is the centre where the nomadic Nawayil meet. There is a cemetery, an olive-grove, and some gardens; to the W. is the place called Kebritti with 30 wells, and 1 hr. to NW. are the remains of a building, formerly a Turkish guard-post (Dar Bel Ayum), near which is a well and some gardens. There are some 100 wells in the Hassa-Kebritti district; they are from 20 to 23 ft. deep, slightly saline but drinkable.

Hours		
Inter- mediate	From Zwara	
5 30	18 15	<p>HASSA OF THE NAWAYIL—GORADA.</p> <p>Road level, excellent at the beginning, not quite so good afterwards, but practicable for wheeled traffic all the way. The ground becomes gradually hilly. Half-way are the wells of Bassriah, which contain a small quantity of magnesia. After this the road is dominated on the E. by heights, the most worth mention being Twil Rshada (a few m. from Bassriah) and Jerda Miriam, recognizable by a marabut on the top. Here the territory of the Siaan is entered.</p> <p>Goradia is a big hollow cultivated with barley with several wells only drinkable for cattle. Here the proper caravan road ends.</p>
5 0	23 15	<p>GORADIA—EL HAIMER.</p> <p>A mere track through ground in part sandy, in part <i>sebkha</i>, practicable for carts.</p> <p>El Haimer is a small hollow on the frontier surrounded by low sandy heights with a few <i>nertum</i> bushes. Two wells are near boundary post 61 in Tunisian territory, but may be used by the Tripolitans (Treaty of May 19, 1910). Water saline but drinkable.</p>
6 0	29 15	<p>EL HAIMER—KASR BISHUL.</p> <p>No road at all. Undulating country of pasturage, practicable for carts.</p> <p>Kasr Bishul is a small masonry house with five wells of slightly saline water.</p>
12 0	41 15	<p>KASR BISHUL—ZIGZAU.</p> <p>Ground undulating in most places with</p>

Hours	
Inter- mediate	From Zwara

a hard bottom, rocky in a few places and sandy in others, difficult for wheeled traffic

No road. To the E. a chain of hills is passed ending in the hill called El Abreg. 1 hr. from Zigzau the **Bahaira** is entered, cultivated with barley and covered with *ethel* bushes.

At **Zigzau** is a small oasis in the bed of the wadi of the same name. It is inhabited by a Siaan *kabila*. Barley fields and several wells of good and abundant water. Water is found by digging 3 ft. down.

7 0	48 45
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ZIGZAU—NALUT.

Level ground, hard, rocky, and broken in some stretches. No road for the first 4 hrs. Then begins the Nalut-Tizi road, practicable for wheeled traffic. After 1 hr. it enters the mountains and follows the left bank of the Wadi **Nalut**, a stretch recently improved. Below Nalut it ceases to be practicable for wheeled traffic; the ascent is made in $\frac{3}{4}$ hr. by a steep mule track cut in the rock.

For **Nalut**, see p. 148.

ROUTE 27

ZWARA—ZELTEN—TWIL TSENNUR—SHUSHA—
BEN GARDANE

Known as the 2nd caravan road, seldom used. Easily practicable for wheeled traffic as far as Zelten, but difficult afterwards on account of the hilly zone which it crosses before

the frontier, and of the *sebkha*, marshy in winter, over which the road runs W. of the boundary.

Hours		
Inter- mediate	From Zwara	
4 0	4 0	ZWARA—SANIET AMOR BEN MILAD. For Zwara , see p. 128. Road level and practicable for wheeled traffic. At Saniet Amor Ben Milad one well of abundant and drinkable water.
1 30	5 30	SANIET AMOR BEN MILAD—ZELTEN. Road and ground as above. Zelten is a small oasis with gardens and a few houses. Drinkable water in several wells. Roads go off: SE. to Rejdalin and NW. to Bu Kemesh.
4 30	10 0	ZELTEN—SANIET TBIAA. Level road difficult for wheeled traffic. Half-way the Roman ruins of Gsir Dreg dominate the road on the N. Surrounding ground undulating. At Saniet Tbiaa two wells of saline but drinkable water and remains of Roman buildings. To the NW. the hill of Twilt Gazzala is a good landmark.
1 30	11 30	SANIET TBIAA—TWIL TSENNUR. Road and ground as above. At Twil Tsennur wells with very little water, saline but drinkable.
3 30	15 0	TWIL TSENNUR TO THE FRONTIER (POST 38). Road and ground as above, going through the region called El Atel. Two wells $\frac{1}{2}$ hr. from

Hours		
Inter- mediate	From Zwara	
		Twil Tsennur and one well $\frac{1}{2}$ hr. from the frontier—all with saline but drinkable water.
2 30	17 30	FROM THE FRONTIER TO SHUSHA. Road and ground of <i>sebkha</i> , flooded in the wet season. For Shusha , see p. 271.
5 30	23 0	SHUSHA—BEN GHARDAN. See Route 11.

ROUTE 28

BU KEMESH—ZELTEN—REJDALIN—AAGHARBIA

The principal connexion between the five caravan roads that cross the territory of Zwara from E. to W. ; it is practicable throughout for wheeled traffic, with a little difficulty in one or two points because of sandy undulations.

Hours		
Inter- mediate	From Bu Kemesh	
4 30	4 30	BU KEMESH—ZELTEN. For Bu Kemesh see p. 270. Practicable for wheeled traffic over <i>sebkha</i> country, occasionally undulating ; at the well of Saniet Yahia (undrinkable water) the route leaves the coast road Bu Kemesh—Zwara and crosses the slight undulations of Ras el Hajji and Leutad. For Zelten see p. 316.
4 0	8 30	ZELTEN—REJDALIN. Road practicable for wheeled traffic, level, with a firm <i>sebkha</i> bottom. Half-way there

Hours		
Inter- mediate	From Bu Kemesh	
		are small undulations on the W. (El Twila). For Rej dalin see p. 305.
3 30	12 0	REGDALIN—AAGHARBIA. After crossing the sandy zone S. of Rej dalin the road is level until near Aagharbia, where the heights that surround the depression begin to make it less easy for vehicles. For Aagharbia see p. 308.

ROUTE 29

KASR GHARIAN—KASR TARHUNA

Among the various caravan and mule routes which lead from Gharian to Tarhuna, this is the least difficult and is the one which will probably be made fit for wheeled traffic. At present it is only in that condition for the last few miles.

Hours		
Inter- mediate	From Gharian	
5 15	5 15	KASR GHARIAN TO THE WADI GHAN. For Gharian see p. 153. Ground firm, rocky outcrops in places ; deeply furrowed, both parallel to the road and across it, by valleys and small ravines, which are bounded by a confused series of ridges, hills, and isolated peaks. The olives, figs, and fields of cereals, which are rather thick near Gharian, become more and more rare, till in the last stretch there are only shrubs and scattered tufts of esparto grass.

Hours	
Inter- mediate	From Gharian

The caravan road is fairly steep in several parts. It branches off from the Tripoli-Gharian road, about 750 yds. E. of the Kasr, and passing on the S. the underground village of **Tegassat**, suddenly begins to descend considerably. After about 1 hr.'s march, it passes the village of **Sgaif**, with about 1,000 inhabitants (nearly $\frac{3}{4}$ m. to S., on a hill); then skirts the valley of the Wadi **Umm Lela** and passes the head of it. Beyond this, to the N., rises the mountain of the same name (alt. 2,433 ft.).

$2\frac{1}{4}$ hrs. from Gharian the road passes between two hills not far apart, crowned by the villages of **Merwan** (spring water 2 m. to S.) and **Ben Mhanna**, and becomes difficult and stony, crossing several steep and deep ravines. $\frac{1}{2}$ hr. later it becomes easy and level once more, crossing the ridge between the Wadi Komeshat to the N. and the Wadi Selahat to the S.; both these run into the Wadi Ghan and take their names from villages facing each other, one on each side of the road, about $1\frac{1}{4}$ hrs. from Merwan.

Selahat, beyond the wadi, with the neighbouring village of Wassin, has about 150 inhabitants and owns, in the bottom of the valley, a small oasis, well cultivated, with good spring water in a rivulet and about 40 wells.

Komeshat, at the head of the Wadi, overlooks a little depression, covered with olive trees. It possesses 4 wells of good water and about 100 inhabitants.

The Wadi Ghan is rather difficult to

Inter- mediate	Hours	From Gharian	
4 30	9 45	THE WADI GHAN TO THE WADI BIR EL WAR.	<p>cross on account of its stony bed, about 220 yds. wide and shut in between high banks. There are small springs at different points of its course.</p>
			<p>Ground similar to the preceding, but mostly rocky.</p> <p>Vegetation of shrubs, scanty tufts of esparto.</p> <p>In a few minutes the road reaches the level of the ruins called Kasr Mararnia (nearly 1 m. S. of the road) and becomes stony and difficult. It ascends the valley of the Wadi Mararnia, confluent of the Ghan, for more than 1 hr., keeping half-way up its sides, and then crosses a region of small hills with somewhat steep slopes. Then, after crossing another small wadi, it enters the valley of the Wadi Wer, in which (about 2 hrs. from the Wadi Ghan) is the Bir Wer with a good and abundant supply of water.</p> <p>$\frac{3}{4}$ hr. later there is difficult going for about $\frac{1}{4}$ hr. across the stony and enclosed beds of the Wadis Gheddateddah and Weseba. Kasr Weseba lies on the E. slope of the latter wadi and on the r. of the road.</p> <p>In the Wadi Bir el War (to be distinguished from the Wadi Wer above), which has a stony bed, converge other little-known caravan routes from Gharian.</p>
3 0	12 45	THE WADI BIR EL WAR TO THE WADI WIF.	<p>The track becomes almost invisible in the hilly ground.</p>

Hours Inter- mediate	From Gharian	
		<p>Ground, marl; rocky outcrops here and there.</p> <p>No inhabitants, no water, and very sparse vegetation.</p> <p>After about $\frac{3}{4}$ hr. the road crosses the Wadi es Seghir, and $\frac{1}{4}$ hr. farther on, its tributary, the Wadi el Essi, passing on the ridge between the two, about 1 m. to the S., the ruins of Kasr es Seghir. Other similar ruins are those of the Kasr Bagherim on a little eminence, about $\frac{3}{4}$ hr. farther and $1\frac{1}{4}$ m. to the N.</p> <p>In the Wadi Wif there is a good spring of water, a small palm-grove, and on the l. bank, near two large cisterns, a camp of the Aulad Ali with about ten tents and a large number of sheep (July 1913).</p>
3 30	16 15	<p>THE WADI WIF TO THE WADI KATRA.</p> <p>Ground is of marl and firm, with vegetation of bushes and esparto grass.</p> <p>The caravan road is fairly clearly marked; bottom firm and practicable, though not easy, for wheeled traffic.</p> <p>After about $\frac{1}{2}$ hr. the Wadi Annan, tributary of the Wif, is crossed.</p> <p>A few m. S. is another camp of the Aulad Ali, with a few cisterns. 40 mins. later the road reaches the camp of the <i>kabila</i> of the Sheikh Arebi, consisting of about ten tents near three large cisterns, N. of the road, and a number of sheep, cattle, and camels (July 1913).</p> <p>The road now continues over a broad flat-topped ridge, bounded by three deep</p>

Hours	
Inter- mediate	From Gharian

valleys (the Wadi Bahar to the NW., the Wadi Katra and one of its tributaries to the E. and SE.), leaving on the N., after $\frac{1}{2}$ hr., the marabut of **Sidi Shair**, and passing, $\frac{1}{2}$ hr. later, quite close to **Bir Burugul**, a well of good and abundant water.

Wadi Katra is enclosed between high banks.

5 0 21 15 THE WADI KATRA—KASR TARHUNA.

Ground not very firm, with sandy tracts and dunes.

Vegetation as above; barley-fields in places.

Caravan road fit for carts and motors, especially during the last 6 m. where certain stretches have been properly built.

After $\frac{1}{2}$ hr. the road passes the ruined marabut of **Henshir Budrihib** to the N., and $\frac{1}{2}$ hr. farther on crosses the Wadi **Esmar**.

In this district encampments consisting of several tents and numerous cattle are frequent; the most noteworthy are those of the *Mugagra kabila*, near the ruins of a fort ($1\frac{1}{2}$ hrs. from the Wadi Katra), and of the *Abanat kabila* ($\frac{3}{4}$ hr. farther on), both situated about $\frac{1}{2}$ m. S. of the road, close to some large cisterns.

Shortly before **Abanat** the road is crossed by a caravan road, which from Suk el Kamis ascends the Wadi Milga (see Route 5) and finally joins the Tarhuna—Beni Ulid road (see Route 54).

$\frac{3}{4}$ hr. later, near some sand-dunes, are 3 cisterns and an encampment of the Ben

Hours	
Inter- mediate	From Gharian

Abdallah *kabila* (July 1913), whence a caravan road goes to the wells of Miji, 40 mins. off (see Route 5).

Finally, 1 hr. before Tarhuna, to the S., the marabut of **Sidi Aejel** on a hillock.

For **Tarhuna** see p. 156.

ROUTE 30

TARHUNA (LUBERAT)—KASR DAUN—KUSABAT— RAS KIMRI—KHOMS

Fit for wheeled traffic, artificially improved for most of the route, and used by motors. Besides the wells mentioned, there are numerous cisterns.

Hours	
Inter- mediate	From Tarhuna
3 30	3 30

TARHUNA (LUBERAT)—BIR BREGA.

For Tarhuna see p. 156.

Roads from Tarhuna fit for wheeled traffic : SW. to Tripoli and Azizia (see Routes 2 and 9) ; S. to Beni Ulid (see Route 54) ; E. to Khoms.

Caravan roads : SW. to Gharian (see Route 1) ; W. to Suk el Haad (whence to the Ain Zara-Tripoli road, or the Jama el Kuoi-Tripoli road) and to Tripoli via Tajura (all described in the first routes) ; NE. to Kasr Daun, and thence to Sidi Ben Nur (see Route 8) or to the Kusabat-Khoms road (see Route 31) ; SE. to Taraglad.

Ground undulating, firm, somewhat stony.

Hours	
Inter- mediate	From Tarhuna

A few gardens, low trees, scrub, pasture in the hollows.

Road made fit for wheeled traffic, with a firm bottom. It rises and falls where it has to cross the various wadis.

$\frac{1}{2}$ hr. from Tarhuna a road goes off NE. to Kasr Doga. After $2\frac{1}{2}$ hrs. the Wadi **Korobo** is reached. In this wadi, 10 mins. to the N., is the well of the same name, with very little water, while $\frac{1}{4}$ hr. to the SW. is the abundant well of Elass on a tributary of the Korobo, running parallel to the road. Both these wells have good water. They are 33 ft. deep.

Bir Brega, 5 mins. to the S., is a well with good water in the Wadi Menshi. It is 33 ft. deep.

4 30

8 0

BIR BREGA—KASR DAUN.

Road, ground, vegetation as before.

After 20 mins. the Wadi **Mamla** and a branch caravan road to the NE. via Sidi Maamer to Kusabat (see Route 30 A).

$1\frac{1}{4}$ hrs. from the Wadi Mamla the road reaches the Wadi **Aman**, on which, 20 mins. to the SE., is Bir Ferjan with a good and abundant supply of water.

1 hr. 10 mins. from the Wadi Aman, to the N., on a small elevation, is the marabut of **Sidi Ali ben Zayer**; 5 mins. later the road for wheeled traffic leaves the caravan road, and, making a wide curve to the S., descends at a considerable gradient the side of the *Daher* and for the last $\frac{1}{2}$ hr. follows the

Inter- mediate	Hours	From Tarhuna	
			<p>bed of the Wadi Shabet Leghel, tributary of the Wadi Daun; this stretch is somewhat stony and is shut in by very high banks.</p> <p>At Kasr Daun (Dawan) are the ruins of a fort, on a hill, at the debouchment of the wadi, also called Daher, and at the point where it is joined by the Shabet Leghel.</p> <p>SE. of the Kasr, some wells with abundant good water, and a spring infested with leeches, feeding a rivulet. In the Wadi Daun are the ruins of some Roman dikes.</p>
2 15	10 15		<p>KASR DAUN TO THE WADI WENI.</p> <p>Hilly ground; barley-fields, rather closer together to the NW.; pastures, bushes.</p> <p>Road as before. During the first hr. it crosses 5 small wadis, divided by lines of heights, and reaches the Wadi Ksea.</p> <p>After crossing this wadi it rises gently on to the ridge of the Jebel Kresh, which culminates to the NW. in the height, surmounted by a marabut and called Msid of Msellata ($\frac{3}{4}$ m. from the road), and then descends rather more steeply into the wide depression which the Wadi Weni crosses from NW. to SE.</p> <p><i>Senams</i> (ruins of olive presses) are frequently found by the side of the road.</p>
2 0	12 15		<p>WADI WENI—KUSABAT.</p> <p>Broad undulations; hills along the first half of the march.</p> <p>Barley fields; rather thick olive woods during the 2nd hour.</p> <p>Road as before.</p>

Hours	
Inter- mediate	From Tarhuna

After about $\frac{3}{4}$ hr. it crosses the little Wadi **Ben Chaji**, and in 1 hr. 10 mins. from the Wadi Weni passes the village of **Lwata**, with a few houses and cisterns, $\frac{3}{4}$ m. to the NW.; $\frac{1}{2}$ hr. later it passes to the SE. that of **Wadna**, with several houses, a mosque, and cisterns.

For **Kusabat** see p. 158,

Important caravan roads start from here; WNW. to Tarhuna; NW. to Fonduk Ejjash; NE. to Khoms; SE. to Khoms (fit for wheeled traffic), Amamra, and the Sahel (see plan of Kusabat).

2 0 14 15

KUSABAT TO THE CROSSING OF THE KUSABAT-SAHEL CARAVAN ROAD.

Ground firm and rather stony; slight undulations and hillocks; a general slope towards S. Thick olive-groves, barley-fields, gardens near the houses.

The road has been made practicable for wheeled traffic; it has a not very firm natural bottom. It curves to the S. of Kusabat and of the Ghelah and takes a SE. direction, passing in succession the following branch caravan roads: S. to Bir Salhum (25 mins. from Kusabat); 10 mins. farther on, S. to Bir Amamra; a few minutes beyond the last, N. to Shogran. 50 mins. from Kusabat it passes through a defile, between two hills close together, which command the road, and 10 mins. later reaches **Kasr Fennan**, a *fonduk* to the N. of the road (with cisterns and 2 wells on the opposite side), from which the hamlet of **Kasr Amam**, on a hill about $\frac{3}{4}$ m. away, is

Hours Inter- mediate	From Tarhuna	
		<p>seen to the SW. Shortly afterwards it passes a caravan road going off S. to the Sahel, and then the group of houses composing Shalgun to the N.</p> <p>This road intersects that from Kusabat to Sahel, a little to the NW. of the hamlets of Kasr Ahmed Sarahid and Kasr Alifa Sakka, where the numerous cattle belonging to the Shurfa are collected together, and where there are a few cisterns and gardens with fruit-trees.</p>
1 0	15 15	<p>FROM THE CROSSING OF THE KUSABAT-SAHEL ROAD TO RAS KIMRI.</p> <p>Road and ground as before ; also vegetation, only more scanty.</p> <p>After 20 mins. the road crosses the little Wadi Bu Fares, with the hamlet of the same name to the N. on the l. bank, and at half-way passes S. of the marabut of Hamid el Kemisi, near the <i>abila</i> of Shubet el Jemam, with a few houses, 3 cisterns, and numerous sheep.</p> <p>Ras Kimri is a height with a wide view, surmounted by a marabut.</p> <p>In this stretch there are several tracks ; automobiles prefer to pass the marabut rather more to the S.</p>
3 0	18 15	<p>RAS KIMRI TO THE MERGHEB.</p> <p>Road and ground as before ; stretches planted with olives and barley, a few bushes and scrub.</p> <p>The fertile and well-cultivated Fawat region is now crossed. There are a few scattered</p>

Hours	
Inter- mediate	From Tarhuna

hovels, half a score of cisterns, and many cattle. After $\frac{1}{2}$ hr.'s march the Wadi **Bu Seida** (tributary of the Wadi Lebda) is reached; on its l. bank is the small collection of houses of the same name, N. of the road.

35 mins. later the road passes a caravan road branching off N. to Shogran, up a small tributary of the Lebda, and, also to the N., **Kasr Zwayet** with two cisterns and a few trees; and shortly afterwards it crosses the wide Wadi **Snanat**, on the banks of which are several houses belonging to the *cabila* of the same name.

Between this Wadi and the next, the Wadi **Endis**, 20 mins. from the Mergheb, there rises on the N. the hill of **Ras Kokla**, a well-known Turkish post during the war; lastly, on the eastern bank of the Wadi Endis, S. of the road, stands the Fonduk **Gherari**.

1 0	19 15	THE MERGHEB—KHOMS.
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At the foot of the hill of **Mergheb** the road joins that from Teipoli to Khoms (see Route 1).

ROUTE 30 A

WADI MAMLA FORK—SIDI MAAMER—KUSABAT

A caravan route, about $1\frac{1}{2}$ hrs. shorter than the road for wheeled traffic, and for this reason a good deal frequented, especially in the direction described. In the opposite direction the loaded camels find difficulty at the ascents.

Hours	
Inter- mediate	From W. Mamla
4 0	4 0

TARHUNA TO THE WADI MAMLA.

See Route 30.

Inter- mediate	Hours From W. Mamlā	
3 15	7 15	<p>FROM THE WADI MAMLA FORK TO KASR SIDI MAAMER.</p> <p>After about 15 mins. the caravan route reaches Bir Umm er Risha.</p> <p>Information is scanty about the whole of this stretch ; it appears that, after 1 hr., there is a rather steep descent from the edge of the plateau to the Wadi Tergut, and also that the ground, after that, must be somewhat broken.</p> <p>At Sidi Maamer there is a marabut and two wells of good and abundant water. Weekly market.</p>
2 45	10 0	<p>SIDI MAAMER—LWATA.</p> <p>Ground very undulating, hilly for the last two hours. (Hills of Bularkan and Burris, divided by the Wadi Ben Chaji.)</p> <p>Scrub and esparto before the Wadi Weni, where olive gardens begin, and become thicker as the road goes on.</p> <p>After $\frac{1}{2}$ hr. steep descent the road crosses the Wadi Ksea, and then becomes a good caravan road, and ascends the hill of Ras Msid (1 hr. 40 mins. from Sidi Maamer) from which a view is obtained of the Msid of Msellata 2 m. to the S. It then skirts a tributary of the Wadi Weni and crosses it 50 mins. later. Finally, $2\frac{1}{4}$ hrs. from Sidi Maamer, it crosses the little Wadi Ben Chaji.</p> <p>Lwata is about 5 mins. off the road (see Route 30).</p>

Hours		
Inter- mediate		From W. Mamla
1 0	11 0	

LWATA—KUSABAT.

Road and vegetation as before; slight undulations.

20 mins. from Lwata **Beni Let** is reached. This is a village of about 50 cottages, with a marabut on the road, and a few cisterns.

ROUTE 31**KASR TARHUNA—KASR DOGA—KUSABAT—
SHOGRAN—KHOMS**

A caravan route, rather rough between the 3rd and 9th hrs. Somewhat shorter than the road fit for wheeled traffic from Tarhuna to Khoms. It skirts the northern edge of the second terrace of the Tarhuna plateau.

Hours		
Inter- mediate		From Tarhuna
2 0	2 0	

KASR TARHUNA—KASR DOGA.

A caravan route with a firm bottom and suitable for wheeled traffic (see Route 8).

3 0	5 0
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KASR DOGA TO THE WADI TERGUT.

The ground traversed is the rocky ridge which separates the valley of the Wadi Doga from that of the Tergut, towards which it descends with a very steep and broken slope.

A few bushes and tufts of esparto; thorny bushes are very common during the last part.

This stretch is a mule-track, which first

Inter- mediate	Hours From Tarhuna	
		<p>rises gently half-way up the side of the hill, and then continues level and easy till the third stage, when it becomes a difficult track, covered with fragments of rock and crossed by several small wadis. $\frac{1}{2}$ hr. from Kasr Doga are two cisterns near some gardens and houses (houses of Abd el Hadi and Ghesser Lesh).</p> <p>Shortly before reaching the Wadi Tergut the road rises to the top of a small hill, from which a view is obtained to the NE., beyond the valley of a tributary of the Tergut, of the ruins of Kasr Guman, and to the SE. of those of Kasr Latrus, both on low heights, Here there is a branch road N. to Kasr Karabuli; it descends and follows the deep and shut-in valley of the Tergut.</p>
2 45	7 45	<p>THE WADI TERGUT—SIDI SOLA.</p> <p>The road rises for about $\frac{1}{2}$ hr. half-way up the side of the broken N. slope of the valley, then it improves somewhat, continuing over slightly undulating ground, with scanty vegetation of esparto and bushes.</p> <p>In the last $\frac{1}{2}$ hr. it passes on the S. the marabut of Ahmed el Ferjan.</p> <p>From the mosque of Sidi Sola, isolated on a low height, a branch road goes off N. to Kasr Jefara via Erfaya.</p>
4 30	12 15	<p>SIDI SOLA—KUSABAT.</p> <p>Ground as before. During the second part of this stretch the fields and olive gardens become more frequent.</p> <p>The road, of the same description as</p>

Hours	
Inter- mediate	From Tarhuna

before, skirts the northern edge of the second terrace of the ridge. After $\frac{1}{4}$ hr. it passes under **Kasr Gargur** and, at $3\frac{1}{4}$ hrs. from Sidi Sola, it passes, on a hill to the N., the **Zawia Lahmari**, and 10 mins. later the **Zawia el Atia** and the **Zawia Zema** to the S.; 25 mins. farther on it crosses the hollows in which are the two wells of Zaafrania (one of these has a pump) with a most abundant supply of excellent water, and then joins the road from Fonduk Ejjash to Kusabat (see Route 7).

15 mins. before Kusabat the village of **Zaafran** is passed to E.

3 30 15 45 **KUSABAT-SHOGRAN.**

Undulating ground cut up by numerous wadis with high banks. Olive gardens, cereals, scrub. A good caravan road: after 10 mins. it passes S. of the marabut of **Sidi Ali**, and N. of the two wells of **Bir Segaf**. Another 10 mins later, having passed the ruined village of **Kseba** (with a well of good water), it follows for a fair distance the valley of the **Wadi Stah**.

At $1\frac{1}{4}$ hrs. from Kusabat it passes the Wadi **Hbhash** (in which is Bir Mana with good water), and after half-way it follows for about $\frac{1}{2}$ hr. the course of the Wadi **Buhah**, from which it crosses into that of the Wadi **Shogran**.

Shogran is a village of about 30 houses, with a well of good and abundant water and several cisterns.

Hours		
Inter- mediate	From Tarhuna	
1 15	17 0	SHOGRAN—SELLIM.
		Road and ground as before. Olive gardens in the bottom of the valley and in the hollows ; thorny bushes ; barley-fields.
		After $\frac{1}{2}$ hr. it passes S. of the village of Baghi , with cisterns, on a small height.
		At Sellim , a village with a few houses in a wide depression, there are two wells with a good and abundant water-supply.
0 45	17 45	SELLIM TO THE MERGHEB.
		Road, ground, and vegetation as before.
		Shortly before the Mergheb, the road joins the road for wheeled traffic coming from Ras Kimri. For Mergheb see Route 1.
1 0	18 45	THE MERGHEB—KHOMS.
		Road fit for wheeled traffic ; artificial bottom.
		For Khoms see p. 141.

ROUTE 32

KASR GHARIAN—ASSABA—KASR GWALISH—
KASR YEFREN

This is the first, and on the whole the best, part of the great post road for wheeled traffic running along the plateau. It traverses thickly inhabited and relatively rich districts.

Hours		
Inter- mediate	From Gharian	
1 30	1 30	KASR GHARIAN—KASR TEGHRINNA.
		The firm and undulating surface is clothed

Hours	
Inter- mediate	From Gharian

with a thick and continuous plantation of olives, which protects the fields of cereals, and a few gardens.

Road fit for wheeled traffic, with an artificial bottom.

After traversing the village of Gharian, (see p. 153) from which branch roads go off S. to Mizda, E. to Tarhuna, and N. to Tripoli, the road turns SSW. and passes on the E., 20 mins. from the Kasr, the underground village of **Tegassat**, and shortly afterwards, on a low height, the isolated **Jama Mahfud** with cisterns near it, and to the W. a mule-track branching off to Ain el Oglā (Wadi Arbaa).

Another $\frac{1}{4}$ hr. farther on is the marabut of **Aulad Ali** to the E., and 650 yds. to the W. is the village of **Aulad Ben Yakub** with two marabuts, a few masonry houses, many caves and cisterns.

Finally, after an easy ascent, the road reaches the villages of **Aulad Azam** ($\frac{3}{4}$ m. to the E.) and of **Sidi Gub** (about 900 yds. to the W.), both underground and possessing numerous cisterns (25 mins. from Tegassat). It then enters a wide hollow.

The name of **Teghrinna** covers various hamlets with masonry houses and numerous cisterns following one another in a section of the road about 550 yds. long: Ard el Yehud and Haji Azam to the W. on the slopes of Kahf Teghrinna, and Kasr Teghrinna strictly so-called, with an isolated fort 550 yds. to the W. of the road, on a height.

Hours	
Inter- mediate	From Gharian
1 0	2 30

KASR TEGHRINNA—TEBEDUT.

Ground and road as before. Olives and figs ; and in some parts fields occur.

After a few mins. the village of **Asbii** is passed on the E. a little off the road, and less than $\frac{1}{2}$ m. farther on to the W. is an isolated hillock crowned by **Kasr Asbii**.

To the S. the large village of **Bu Zayan** with a marabut and many cisterns. From this can be seen, about 1 m. to S., the group of the villages of Megharba and Ben Wasir on hilly ground. Just beyond Bu Zayan the road for wheeled traffic from Gharian to Mizda enters. It runs for a few minutes in an E. dir. (see Route 44). There are other *ksur* on the heights at the side of the road in the rest of this stretch.

Tebedut, somewhat off the road, to the N., is a considerable village with cisterns and several houses of masonry. To the W., on a little height, is the *kasr* of the same name.

3 0	5 30	TEBEDUT—SUK ASSABA.
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The road has for the most part a firm natural bottom, made uniform by digging out and filling in. Motor-cars in some parts follow other tracks off the road as the ground can be traversed in all directions. In fact, within about 20 mins. of Tebedut, after the Wadi **Arbaa** has been crossed, the hilly country ends, and is succeeded by the uniform plains of **Janduba** and **Assaba**, broken here and there by isolated heights.

Hours	
Inter- mediate	From Gharian

Such are **Henshir Awenshi** near some Roman ruins, 550 yds. to the S., 40 mins. from Tebedut, and **Henshir Tressart**, crowned by a few houses, about 1 m. to the N., at half-way.

There are olives, figs, and scanty vines pretty well everywhere; mixed cultivation; very little esparto. Near Assaba extensive plantations of fig-trees.

Suk Assaba is a small village to the N. of the road, between two heights, with a few houses of masonry and a few cisterns. There is a cemetery on the opposite side of the road.

From here there are branch mule-tracks and difficult caravan roads: NW. to Rapta; and farther on, W. via Misga to Kikla (the usual way to Yefren), see Route 35.

6 30	12 0	ASSABA—KASR GWALISH.
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Road fit for wheeled traffic; firm natural bottom, except for a few sandy stretches. Ground hilly in the first third of the journey, highest towards the N., for the rest of the stage undulating with a few isolated hills.

Esparto grass and barley-fields.

5 hrs. from Assaba, on the road, a place named **Batum esh Sheikh** (so-called from a large *batum* tree) where caravan roads branch off NE. to Misga and W. to Swadna.

1½ m. to the N., near the head of the Wadi **Sert**, are five wells, 13 ft. deep, with a good and abundant supply of water.

The road then turns S. of the head of the Wadi Sert, ½ hr. later reaches **Bir Gwalish** (water-supply uncertain), whence a branch

Hours		
Inter- mediate	From Gharian	
		road fit for wheeled traffic goes off SW. to Awenia and Zintan. This saves about 3 m.
		Kasr Gwalish is a ruin on a hill, $1\frac{1}{2}$ m. N. of the road.
4 0	16 0	KASR GWALISH TO THE MARABUT OF MAAMURA.
		Road with a somewhat harder and more even bottom than before.
		Undulating ground. Vegetation as before.
		After 1 hr. the road follows the last part of the course of the Wadi Moghal , at the head of which, over 1 m. to the N., on some mounds are Roman remains, Suffit Dahar .
		There is a branch caravan road to Rumia, which could be made practicable for wheel traffic.
		The marabut of Maamura is on the N. side of the road.
		A little before it there is a crossway from which roads go off: N. to Ghela, NE. to Swadna, and W. a direct route to Rumia and Zintan, which avoids Yefren and saves $4\frac{3}{4}$ hrs.
1 45	17 45	FROM THE MARABUT OF MAAMURA TO YEFREN.
		Road with an artificial bottom for the most part, but with many windings and steep gradients. Ground very broken and cut up by deep ravines.
		Olive and fig plantations reappear, and fields of cereals and kitchen gardens.
		After $\frac{1}{2}$ hr., during which the road runs

Hours	
Inter- mediate	From Gharian

along a narrow ridge, it passes, in the low ground on the W., the two collections of houses which form the nucleus of the large village of **Umm es Sersam** with about 1,000 inhabitants and, after the second $\frac{1}{2}$ hr., passes in succession, on the SW. side, **Mshushin**, and on the NE. side **Guradiin** and **Maniin** close to the road, and **Kusbat** and **Bkhabkha** about 770 yds. away.

This group of villages with houses of masonry and several cisterns, has a population of about 1,500.

From Guradiin a caravan-route goes off N., joining the Yefren-Tagma-Bir el Ghanem road near Kusbat.

The road for wheeled traffic here turns sharply off to the E., following a ravine, containing a tributary of the Rumia. See map of Yefren, p. 152.

ROUTE 33

YEFREN—ZINTAN—JADO (FESSATO)

Another good section of the carriage road along the plateau. It runs for the most part over firm and relatively flat ground. The telegraph line follows it a short distance away for almost its whole length.

Hours	
Inter- mediate	From Yefren
2 45	2 45

YEFREN—PONTE RUMIA (RUMIA BRIDGE).

For **Yefren** see p. 151.

Road fit for wheeled traffic; bottom largely artificial.

Hours	
Inter- mediate	From Yefren

Vegetation : besides the oases there are palms, fig and other trees, and isolated shrubs on the slopes ; esparto on the high ground.

The road turns off to the S., 550 yds. from the Kasr, and follows, half-way up the side of the hill, the line of the eastern slope of the Wadi Rumia ; it is forced to zigzag sharply in order to cross the deep valleys in which flow tributaries of the Wadi Rumia. Among these should be noted the Wadi **Shubak** ($\frac{3}{4}$ m. from Rumia), in which, near the road, is the spring of the same name. About half-way on the W. in the low ground is the village of **Aulad Atia**, with about 200 inhabitants, close to a very fertile little oasis.

During the last hr. the road skirts the upper part of the Rumia valley, which has gentle slopes and a perennial water-supply ; this part is clothed with a thick growth of palms. In this stretch are passed, one after the other, the small villages of **Aulad Saal**, **Aulad Shair**, **Aulad Diab**, **Aulad Said**, **Aulad Bonafia**, of the *abila* of Rumia, which comprises about 300 souls.

From **Ponte Rumia** (on the wadi of the same name) a caravan road goes off to the E. ; it is possible but not easy for wheeled traffic, and leads to the marabut of Maamura on the Yefren-Gharian road (see Route 32). It follows the course of the Wadi Rumana in which, a few minutes on, is the spring **Ain Ben Nasser**.

Hours	
Inter- mediate	From Yefren
1 15	4 0

PONTE RUMIA—AWENIA.

Road fit for wheeled traffic, with a firm bottom almost everywhere natural, but occasionally artificially improved. Gradients slight. Undulating ground. Vegetation as before.

After 20 mins. the road passes, about $1\frac{1}{2}$ m. to the N., the large village of **Surgan**, on the western slope of the little wadi of the same name.

This slope culminates in a ridge on which stand out, in a line from S. to N., 3 heights, crowned with the same number of groups of ruined houses and underground dwellings (Maamur, Ruma, Sassijerada).

At **Awenia**, at the head of the Wadi Klaifa, are 13 wells with a good and abundant water-supply and pulleys. To the N. the three groups of the villages of Klaifa.

A caravan road branches off NW. to Riaina.

5 30 9 30 AWENIA—ZINTAN.

Road as above. Ground gently undulating at right angles to the road. Numerous stretches planted with olives, figs, barley, and esparto. In the second $\frac{1}{2}$ hr. the road crosses Wadi **Beheira**, and passes several wells and cisterns on the S. side. There are other wells of the same sort also on the S. about $1\frac{1}{2}$ hrs. from Awenia. At $4\frac{1}{4}$ hrs. from Awenia caravan roads go off NE. to Riaina (see Route 36), and one SE. to Mizda, on which, about 660 yds. of the road, may be seen some Roman remains.

$\frac{3}{4}$ hr. later ($\frac{1}{2}$ hr. before Zintan) another

Inter- mediate	Hours	From Yefren	
8 0	17 30	caravan road branches off S. to Jado. For Zintan see p. 150.	
		ZINTAN—JADO.	
		Road and ground as before.	
		Vegetation. Olive gardens for the first $1\frac{1}{2}$ hrs. and again for the last $\frac{3}{4}$ hr. For the rest of the way scanty bushes of thorn, esparto, woody scrub.	
		The road leaves the Yefren road, in a SSE. direction, about $1\frac{1}{2}$ m. from Zintan, and is crossed by the caravan roads, Zintan—Mizda, $1\frac{1}{4}$ hrs. from Zintan, and Zintan—Ghadames, $1\frac{3}{4}$ hrs. farther on, exactly at the southernmost point of the wide bend which the road makes, skirting the head of the Wadi Rusban . The telegraph line which cuts it near kilometre 6 (about 4 m.) and kilometre 18 (about 11 m.) continues, after this last point, to follow the course of the road to the S. up to within a short distance of Fessato.	
		At $3\frac{3}{4}$ hrs. from Zintan are two wells (or cisterns) to the SW.	
		$1\frac{1}{2}$ hrs. before reaching Jado it cuts the direct caravan road Tripoli—Kasr el Hajj—Taredi—Ghadames and, $\frac{1}{2}$ hr. farther on, passes on the S. an isolated house with three gardens and enters the wooded zone.	
		$\frac{1}{4}$ hr. before Jado there is a branch road, suitable for wheeled traffic, leading S. to Nalut, and about 100 yds. farther on two caravan roads to NE., of which one leads to Tarmisa and Shefi, and the other to Taredi (see Plan of Jado, p. 149).	

ROUTE 34

JADO—NALUT

This is the last long section of the plateau carriage road; it is 90 m. in length, and about 13 ft. in width. In order to avoid the steep valleys of the wadis it keeps well to the S. of the edge of the plateau and at a considerable distance from all the inhabited centres, and runs through semi-desert regions without any notable features.

Hours		
Inter- mediate	From Jado	
1 45	1 45	JADO TO THE WADI SARGA. For Jado see p. 150. Road fit for wheeled traffic. Firm bottom recently improved. The telegraph line follows it. Ground undulating, firm, with an increasing slope towards the Wadi Sarga. The olive gardens and fields of cereals become more rare as the Wadi Sarga is approached. Various bushes and scrub. The road branches from the Yefren-Jado road about $\frac{1}{4}$ hr. from the <i>kasr</i> of Jado, and, after $\frac{1}{4}$ hr. easy ascent, passes on the W. the ruins of Maajera on a little hill. Thence it continues on the crest, passing after $\frac{1}{2}$ hr., about 800 yds. to the W., the marabut of Bu Sakkari with a cistern and, $\frac{1}{4}$ hr. later, the marabut of Sabet Zinnan 550 yds. to the SE. Here begins a gentle descent towards the Wadi Sarga , which is crossed without any difficulty.
4 15	6 0	THE WADI SARGA TO THE BRANCH ROAD GHENAFIT—UMM EL GHARB. Road as above. Ground gently undulat-

Inter- mediate	Hours	From Jado	
			<p>ing, stony, fit for wheeled traffic in all directions. Scrub and thorny bushes.</p> <p>3$\frac{3}{4}$ hrs. from the Wadi Sarga the road passes the place called Logorabat, about $\frac{1}{4}$ m. to the N., with three cisterns of good water.</p> <p>Shortly before reaching the point where the branch road goes off the road enters the valley of the Wadi Sedir, tributary of the Wadi Umm el Gharb.</p> <p>The branch road (fit for wheeled traffic) goes off in a N. direction, and, after about 2 m., it bifurcates, sending off one branch NE. to Ghenafit, and the other W. to Umm el Gharb.</p>
3 0		9 0	<p>FROM THE BRANCH ROAD GHENAFIT-UMM EL GHARB TO THE FORK OF THE NALUT AND GHADAMES ROADS.</p> <p>Ground undulating. Vegetation; scrub and shrubs, especially thick along the course of the Wadi Umm el Gharb.</p> <p>As in the preceding stage, the road follows the valley of the Wadi Sedir by easy gradients, from time to time crossing its course without difficulty. After about 1$\frac{3}{4}$ hrs. the Wadi Sedir turns sharply N., and the road crosses it and then goes on winding to the W. The telegraph line runs now on one, now on the other side of the road.</p> <p>The fork of the roads to Nalut and Ghadames is in a level region. The branch road (fit for wheeled traffic) via Sinaun to Ghadames goes off to the SW. Near the fork, towards the N., there is a branch</p>

Hours		
Inter- mediate	From Jado	
		caravan road to Umm el Gharb, which is about 1½ hrs. away (see Route 40). The telegraph line runs S. of the cross-road.
6 0	15 0	FROM THE FORK OF THE NALUT AND GHADAMES ROADS TO THE BRANCH ROAD TO MERGHES. Ground undulating, with gentle slopes practicable for motors S. of the road, broken and hilly N. of it. Scanty bushes and scrub. Shortly before the end of the section, to the N. of the road, there is a large hollow with abundant pasture of shrubs and grass. Road as before. It travels WNW. for the first two-thirds of the way, keeping on the watershed between the Jefara and the S.
7 0	22 0	FROM THE BRANCH ROAD TO MERGHES TO THE CARAVAN ROAD KABAO-SANIET ER RAJEL. Ground slightly undulating, hard and gravelly, fit for wheeled traffic in all directions. A few sandy dunes here and there. Vegetation as above, but more scanty. The branch road to Merghes (1½ hrs. distant) is fit for wheeled traffic. Road as before. After 1 hr. 10 mins. the telegraph line which follows the road on the S. sends out a branch to the N. towards Josh, which passes by Serus, while the other branch continues on to Nalut, leaving the motor road after about 3 hrs. Half an hour beyond the branch road the motor road skirts the head of the Wadi Serus.

Hours		From Jado	
Inter- mediate			
			<p>The caravan road Kabao-Saniet er Rajel (2½ hrs. to the N., see Route 50) meets the motor road near some little sand-hills.</p> <p>The telegraph line at this point runs about 1,100 yds. to the N.</p>
5 0	27 0		<p>FROM THE SANIET ER RAJEL-KABAO CARAVAN ROAD TO THE CROSSING OF THE SANIET ER RAJEL-AULAD MAHMUD (NALUT) road.</p> <p>Road, ground, and vegetation as above; a few dunes.</p> <p>The crossing formed with the Saniet er Rajel-Aulad Mahmud road (Aulad Mahmud is a place about 3 hrs. off to the NW.) occurs in a sandy region.</p> <p>On this caravan road, about 1¼ m. to the SE. of the crossways, is the small hill of Roda, with a marabut (see Route 49).</p>
2 0	29 0		<p>FROM THE CROSSING OF THE SANIET ER RAJEL-AULAD MAHMUD ROAD, TO THE CARAVAN ROAD NALUT-BIR SUZZAM.</p> <p>Road and vegetation as above.</p> <p>Undulating ground; crossed by a few wadis in a S. direction.</p> <p>Aulad Mahmud is about 2½ hrs. to the N. of the crossing formed with the Aulad Mahmud-Bir Suzzam-Sinaun caravan road (see Route 39).</p>
5 0	34 0		<p>FROM THE NALUT-BIR SUZZAM CARAVAN ROAD TO TUMIAT NALUT.</p> <p>The road goes on zigzagging over somewhat broken ground, and 1¼ hrs. farther on it</p>

Hours		
Inter- mediate	From Jado	
		passes on the N. the isolated marabut of Bu Aesha and is crossed by the caravan road from Hassian Nalut to Sinaun.
		Tumiat Nalut are two low heights near the head of the Wadi Nalut.
2 30	36 30	TUMIAT NALUT—NALUT. Ground very undulating. Vegetation as before. A few palms and figs in the valley below. The road makes a wide bend at the head of the Wadi Nalut and its tributaries, and winds very much. After 20 mins. it is crossed by the caravan road from Nalut to Wazzen. For Nalut see p. 148. In the valley to the N., 5 mins. distant, on the road, are 3 wells between 30 and 40 ft. deep, with plenty of good water; in the oasis are 8 wells with moderate water and 7 springs (of which the most important one, Ain Tala , has a reservoir and gives $1\frac{1}{2}$ gallons per minute), yielding altogether about 4,400 gallons per day. Branch caravan roads from Nalut: N. to Tekut; NW. to Dehibat; SW. via Hassian Nalut to Sinaun (see Route 38); SE. to Aulad Mahmud and thence to Sinaun or Saniet er Rajel. There is a road fit for wheels ENE., via Tizi to Tripoli. The first section of this, however, is not possible for vehicles, and descends for about $\frac{3}{4}$ hr., with sharp gradients and many windings, down the eastern edge of the plateau.

ROUTE 35

KASR GHARIAN—KIKLA—SWADNA—KASR
YEFREN

A difficult caravan road. In some stretches of it animals must be led. On account of its being shorter than the road for wheeled traffic (although the special difficulties reduce the saving of time to only $\frac{3}{4}$ hr.) and also on account of the water supplies which it provides, it is preferred by detachments moving from Yefren to Gharian.

Hours		
Inter- mediate	From Gharian	
5 30	5 30	KASR GHARIAN—SUK ASSABA. See Route 32.
2 0	7 30	SUK ASSABA—MISGA (BROW OF THE VALLEY). Undulating ground, especially so at half-way through the journey. A few olives and figs here and there; fields of cereals. Esparto. The road leaves the road for wheeled traffic about $\frac{3}{4}$ m. from Assaba. It is a good caravan track, with a firm bottom. Misga is a village with about 100 persons, built at the bottom and half-way up the course of a narrow valley, a tributary of the Wadi Sert. It has an oasis of about 3,000 palms and olives, fairly fertile, well cultivated, with running water.
3 0	10 30	MISGA—KIKLA. Ground rocky and irregular. Besides the oases, a few trees and isolated shrubs, thorny bushes, and esparto.

Hours	
Inter- mediate	From Gharian

The road is a mule-track, difficult, stony, and with steep gradients; it descends for 1 hr., cut out of the rock, down the steep eastern slope of the Wadi Sert; it crosses the broken bottom of the valley and the irregular and enclosed bed of the wadi and joins the caravan road coming from Azizia; from here, having entered the ravine of **Abeyat**, it crosses the oasis of **Juntan** (well cultivated, with two springs of excellent water, one at the bottom and the other at the upper end) and ascends, winding along the steep edge on which Kikla stands.

Kikla is a group of villages with houses of masonry, and is the capital of a Mudiria which has a total population of about 8,000 inhabitants. There is a station of the Royal Carabineers, and there is a well of drinking water not far off.

1 45 12 15 **KIKLA—SWADNA.**

Ground, except for the valleys, undulating, with rocky outcrops here and there. Vegetation as before.

The road has one or two stony stretches during the first hr., then it becomes a mule track with rather difficult going across the valley of Swadna.

Swadna is a village with about 250 inhabitants, situated half-way up the side of the hill, near the head of the valley of the same name, in which there is a little fertile oasis, well cultivated, with running water for a certain distance and deep wells worn out of the rock by erosion. There are two springs,

Hours		
Inter- mediate	From Gharian	
		one very abundant, near the Yefren road, just outside the settlement.
3 0	15 15	SWADNA TO THE MARABUT OF MAAMURA. Undulating ground. After the first $\frac{1}{2}$ hr. olive gardens, barley-fields, and plantations of fig-trees become more and more frequent. A caravan road, level, with a firm bottom ; in some parts rendered difficult by the rocky outcrops. 2 hrs. from Swadna there is a cistern with sides of Roman stonework, and shortly afterwards a few dwellings on the N. of the road ; on the opposite side, about 770 yds. away, there are the imposing ruins of a Roman mausoleum on a hill (Suffit Dahar).
1 45	17 0	FROM THE MARABUT OF MAAMURA TO YEFREN. See Route 32.

ROUTE 36

AWENIA—RIAINA—ZINTAN

A section of caravan road, somewhat shorter than the corresponding part of the motor road. It touches all the inhabited centres on the edge of this part of the plateau.

Hours		
Inter- mediate	From Awenia	
2 0	2 0	AWENIA—RIAINA. Ground near the road slightly undulating ; marl soil. The fields of cereals, olive and fig plantations, and gardens are very

Hours		
Inter- mediate	From Awenia	
		<p>numerous. Thick olive gardens at the end of the stage.</p> <p>After passing over a few short but rather steep slopes the caravan road continues easy and level, with a firm bottom.</p> <p>The mudiria of Riaina has a population of 4,600 souls, and comprises 7 villages fairly close to each other and situated near the head of the wadi of the same name. Of these the largest is Beled Akh el Ain, with about 1,700 inhabitants, on the side of the valley. Houses of masonry and many cisterns. At the bottom of the valley there is a small, closely planted oasis, crossed by a perennial streamlet rising from an abundant spring of good water.</p>
3 15	5 15	<p>RIAINA—ZINTAN.</p> <p>Ground and vegetation as before.</p> <p>The road, level and similar to the preceding stage, crosses, about half-way, a low ridge which marks the boundary of Zintan. Some Roman remains and cisterns by the side of the road.</p> <p>At $2\frac{1}{4}$ hrs. from Akh el Ain, to the N., the marabut of Zahasin in the middle of the olive gardens. $\frac{3}{4}$ m. farther on the road joins the motor road from Zintan to Yefren, a little before the Wadi Shidau (see Route 33).</p>

ROUTE 37

JADO—KUTRUS (FIASLA)—TENDEMMIRA—KABAO—
TIRIKT—NALUT—WAZZEN—DEHIBAT

The road runs for the greater part through the district on the edge of the plateau, touching various inhabited centres in it. Except for a few stretches it is more of a mule-track than a caravan road, sometimes very ill defined, and often difficult and steep.

Hours

Inter-
mediateFrom
Jado

1 15

1 15

JADO TO THE WADI SARGA.

Undulating ground, firm; with a slope towards the Wadi Sarga.

The valleys of the Wadi Sarga and of Mezzur are clothed at the bottom by an oasis in terraces, not very closely planted, but fairly fertile. On the high ground the olive gardens get thinner as one proceeds. Beyond the Sarga the tree vegetation ceases.

A good caravan road, with a firm bottom, but not fit for wheeled traffic. After 35 mins. it passes on the W. the large village of **Mezzur**, situated half-way up the side of the hill, on the S. slope of a valley, at the bottom of which, after a descent of about 10 mins., is a spring of abundant good water in a well. The village consists of masonry houses and is inhabited by about 600 Berbers.

The road continues skirting to the E. the valley of the **Sarga**, which has running water as far as Jennaun, and about 1 hr. from Jado it reaches the cistern of **Haneb**.

Hours		
Inter- mediate	From Jado	
2 45	4 0	<p>THE WADI SARGA—KERBA (I).</p> <p>Ground slightly undulating, stony in parts. There is scanty scrub, isolated shrubs. A mile or two before Kerba olives and figs appear.</p> <p>A good caravan road, fit for wheeled traffic.</p> <p>Kerba (I) (numbered thus to distinguish it from the other village of the same name in Nalut, which is called Kerba II) is capital of the mudiria of Rehibat. It is a large village with about 500 inhabitants, all Arabs, and with masonry houses. Water from cisterns round the village.</p> <p>$\frac{1}{2}$ hr. SW. of Kerba, in a place called Abdul Abbas, is an ancient ruined Arab church, in the construction of which many fragments of Roman masonry have been used. At a short distance, at the head of a small wadi, is an abundant spring called Bunahat. On the wadi itself are important ruins of ancient fortified works, with ditches cut out of the rock. In the N. part of the district are petrified remains of ancient forests.</p>
1 0	5 0	<p>KERBA (I)—GATAA.</p> <p>Ground and vegetation as before.</p> <p>Road as before, but rocky during the last few miles. At two-thirds of the way it passes on the S. the small village of Nedwa (with 300 Berber inhabitants), and to the N. that of Aulad Bu Jedid.</p> <p>Gataa, S. of the road, is inhabited by 250 Arabs and 150 Berbers; like Nedwa and</p>

Hours. Inter- mediate	From Jado	
		Bu Jedid, it has houses of masonry and cisterns, of which the most capacious is close to the road.
2 45	7 45	GATAA—GHENAFIT.
		The edge of the plateau is rocky and broken, and cut up by deep and steep-sided ravines.
		There are olives, figs, isolated palms ; a few small fields, where the nature of the country permits ; bushes and scrub.
		A mule-track, difficult on account of the steep gradients and the ruggedness of the rocky terrain. It crosses in the first $\frac{1}{4}$ hr. the narrow valley of the Wadi Mitwin , where there is a well of good and abundant water, called Ain Ghibina, and reaches Kruma , a village like the previous one, with about 200 Arab inhabitants. It then crosses the Wadi el Mesuk (or Zahlega), where are the 2 wells of Shatt el Zahlega, and passes on the NW., on the western slope of the wadi (about $\frac{3}{4}$ hr. off by mule-track), the village of Umsiref , with about 200 inhabitants of mixed race. At 1 hr. 20 mins. from Kruma it crosses another wadi, Sikket el Araf , near its head. In this wadi, 1 hr. downstream, is the spring called Ghittaz.
		Ghenafit is a village like the previous ones, with about 400 inhabitants and 5 cisterns round it. A branch road for wheeled traffic goes off from here to the S., and joins the Jado-Nalut road, 6 hrs. SW. of Jado.

Hours		
Inter- mediate	From Jado	
1 30	9 15	GHENAFIT-KUTRUS (FIASLA). Ground as above. Vegetation scanty, especially in the last $\frac{1}{2}$ hr. A somewhat better mule-track than before. At $\frac{1}{4}$ hr. from Ghenafit there is a branch road NW. to Slammat. Kutrus (in Berber, Fiasla) is a village of about 500 inhabitants, half Arab and half Berber. Masonry houses and cisterns. Plenty of good water in 2 wells in the valley which runs to the W., one 5 mins. below the hamlet, and the other $\frac{1}{4}$ hr. to the NW., on the mule-track which leads to Josh.
2 0	11 15	KUTRUS TO THE WADI ÜMM EL GHARB. Ground broken up and stony. Vegetation; a few olive gardens near Kutrus; then scanty shrubs and bushes. A mule-track; during the first hr. it descends in a SW. dir. into the Wadi Sed , by a narrow tributary valley (during the last part of the descent it is rather difficult on account of the gradient, the windings, and the stony bottom), then it follows in a NNW. dir. the course of the Sed to its junction with the Wadi Umm el Gharb. About 1 m. W. of the Wadi Umm el Gharb, on the high ground, at the extremity of the spur which divides it from the tributary Wadi Barzuf, are the ruins of the Saracen village of Fatman (known also under the name of Kasr Bu Khres). From these ruins can be seen, $12\frac{1}{2}$ m. to the N., the oasis of Josh, at the foot of the last hilly outliers of the plateau.

Hours	
Inter- mediate	From Jado
3 45	15 0

WADI UMM EL GHARB—SERUS.

Ground gently undulating. Vegetation; numerous palms in the Wadi Beghighila; scanty scrub and bushes on the higher ground.

The mule-track turns W., on the extreme slopes of the spur of Kasr Bu Khres, crosses the Wadi **Barzuf** ($\frac{3}{4}$ hr. from the Wadi Umm el Gharb), and, climbing the W. slope of the wadi, reaches the plateau and continues over it, skirting the deep valley of the Wadi **Beghighila**. On the opposite slope of this Wadi it passes, 1 hr. from the Wadi Barzuf, the village of **Beghighila** (capital of the mudiria of Haraba, with about 750 inhabitants, masonry houses, a small oasis), and after $\frac{1}{2}$ hr. it passes the village of **Beggala**. Between the two villages, along the wadi, are 35 wells with plenty of good water near the mouth.

Almost on a level with Beghighila, near the road, is a Senussi zawia with a marabut. In order to reach Serus, it is necessary to descend a steep and difficult path in the wadi of the same name; in this wadi is a well with plenty of good water.

Serus is a ruined village; the mosque alone remains in a fairly good condition. There are branch mule-tracks from here: N. to Merghes, Beghighila, and Josh; W. to Nalut (a straight road, in continuously undulating country with no particular features, taking about 16 hrs.).

Hours		
Inter- mediate	From Jado	
2 30	17 30	SERUS—TENDEMMIRA. A wide valley, with rugged slopes worn by erosion. The caravan road follows the bottom of the wadi for about 1 hr. 40 mins., and then turns into a winding and difficult path, rising steeply. Tendemmira is a poor village with about 400 inhabitants, 3 wells of scanty water, and a spring of drinking water called Hosset el Mohammed. The level district which surrounds the village is covered, especially towards the NE., with well-grown olive gardens.
1 0	18 30	TENDEMMIRA—TEMLUSEIT. The caravan road, which affords good going, just touches the head of the Wadi Tendemmira , tributary of the Wadi Tem-luseit, and continues over firm bare ground. Temluseit , on the edge of the valley of the same name, is a wretched village with about 100 inhabitants and a single well, 33 ft. deep, with moderate water, and a few cisterns.
1 30	20 0	TEMLUSEIT—TEMEZIN. Ground and vegetation as before. The mule-track, steep and difficult, descends into the Wadi Temezin and mounts the opposite slope. Temezin , a village of 750 inhabitants, living in miserable conditions, has 2 wells, respectively about 20 and 50 ft. deep, with abundant water, unfit for Europeans, and a few cisterns.

Hours		
Inter- mediate	From Jado	
1 20	21 20	<p>TEMEZIN—WADI ERIFSEN (FARSAT).</p> <p>Ground and vegetation as above.</p> <p>The caravan road has a somewhat irregular bottom. It proceeds S., skirting the valley of the Wadi Ukrifa, for about $\frac{3}{4}$ hr., passing in succession the 2 cisterns of Tars Temezin and Bu Erbain, which are often dried up, and then turns W., passing close to the head-streams of the Wadi Ukrifa, Dukkari, and Ghinda. At the head of the Wadi Erisen a branch road goes off, skirting the valley of the wadi to the W., leading in about 20 mins. to Farsat, a wretched village with about 300 inhabitants, 8 wells of scanty water, and a little spring called Ain Fenzera. A remarkable feature is a castle, dating from the year 1272 of the Hejira, now used as a store-house for grain.</p>
1 10	22 30	<p>THE WADI ERIFSEN—KABAO.</p> <p>Ground as before ; about half-way olive- and fig-trees begin to appear and become more and more luxuriant and thick as Kabao is approached. Barley is extensively cultivated.</p> <p>The road, which is as before, skirts the head-streams of the Wadis Tebros and Kabao. In the first $\frac{1}{2}$ hr. it is a mule-track, difficult for horses with riders ; it then improves, but in the last $\frac{3}{4}$ hr. it traverses considerable gradients.</p> <p>Kabao, a village of 1,800 Berbers, is the capital of a mudiria of the Kaza of Nalut with a total population of 3,800. A small oasis. Principal products : barley, oil, and figs. In the bottom of the wadi of the same</p>

Inter- mediate	Hours From Jado	
		<p>name are 3 wells, from 30 to 60 ft. deep, with plenty of good water.</p> <p>There are branch roads: N. to Tizi; NW. to Bir Aghila (a well in the bottom of the Wadi Sheikh) and Nalut; and S. to Saniet er Rajel.</p>
2 30	25 0	<p>KABAO TO THE ROMAN RUINS (FORK OF THE ROAD TO TALAHET).</p> <p>Ground level and firm.</p> <p>Vegetation limited to a few shrubs.</p> <p>A good caravan road with a firm and level bottom. It traverses the ridge between the Wadis Kabao and Ghinda, and then turns N. and skirts the head of the latter and also those of the Wadis Ururi and Ben Daud in succession, gradually retreating from the edge of the plateau.</p> <p>The Roman Ruins are at the head of the Wadi Mural, S. of the road. There is a branch N. to Talahet (1½ hrs. off), a village situated on a little hill, where the Wadi Sheria debouches from the plateau. It is inhabited by about 150 Arabs; it has 1 well, about 25 ft. deep, and a little spring.</p>
1 30	26 30	<p>FROM THE ROMAN RUINS TO KERBA (II).</p> <p>A valley (Wadi Mural) with regularly sloping sides. There are a few trees and isolated shrubs; thin scrub.</p> <p>A mule-track, faintly marked, running along the southern slope of the Wadi Mural, half-way up the side, and then coming out into that of the Mejabra, of which it ascends the western slope.</p>

Hours Inter- mediate	From Jado	
		<p>Kerba (II), almost at the head of the Wadi Mejabra, is a village with houses of masonry, inhabited by about 500 Arabs. At the foot of the height on which the village stands are 2 springs of good but scanty water and a well. There is another little spring and 3 wells at the bottom of the valley of the Wadi Mejabra. There is a branch mule-track N. to Mejabra and Tizi.</p>
2 0	28 30	<p>KERBA (II)—TIRIKT.</p> <p>Broad undulations and scanty vegetation, limited to a few isolated olive-trees and scrub. Good caravan road with a firm bottom.</p> <p>Tirikt, just above the head of the Wadi Aluamed, is a village inhabited by about 350 Arabs belonging, like those of Talahet and Kerba, to the tribe of the Awamed, whose name is also given to the district. It has a spring of excellent and abundant water, called Ain Sijdal, and also a well.</p>
3 30	32 0	<p>TIRIKT—NALUT.</p> <p>Ground rocky ; a valley with very broken slopes, lying between Jebel Zitun and Jebel Umm ed Diab. Vegetation as before.</p> <p>A difficult mule-track, along which animals must be led. It follows the course of a little stony wadi. At Kasr Derj it joins the road fit for wheeled traffic from Tizi to Nalut (see Route 16).</p> <p>For Nalut see p. 148.</p>
5 45	37 45	<p>NALUT—AIN GHEZZAYA.</p> <p>A caravan road, which skirts for the first 5 m. the valley of the Wadi Kanga, to N.,</p>

Hours	
Inter- mediate	From Jado

crossing various small tributaries of that wadi, till it intersects the motor road from Jado to Nalut, near the head of the wadi. It then continues over the plateau without any difficulties worth mentioning. In the last $\frac{3}{4}$ hr., during which it descends the valley of the Wadi **Ghezzaya**, it becomes difficult and steep, not practicable for animals with riders.

Ain Ghezzaya, lying along the valley and almost at the point where the Wadi of the same name debouches into the plain, is a pleasant little oasis, well cultivated and supplied with 4 wells of good water, only a few inches deep. Besides these there is on the road **Bir Ben Sherif**, an excellent spring enclosed in a well. Scattered over the slopes of the valley are the scanty houses and caves of the 470 inhabitants of the place. 2 m. to N., on a spur with rugged sides, rises the ruin of **Kasr Ghezzaya**. There is a branch road NW. to Dehibat, which passes the frontier at the 97th frontier post.

1 30

39 15

AIN GHEZZAYA TO THE MARABUT OF UMM EL FATMA.

A rather stony caravan-route, traversing the undulating region at the foot of the plateau; numerous orchards near caves inhabited by shepherds. In the uncultivated parts bushes and scrub.

Near the Marabut of **Umm el Fatma** is a large house; S., a couple of m. away, can be seen, on the edge of the plateau, the ruined **Kasr Tsuls**.

Hours

Inter- mediate	From Jado	
5 30	44 45	<p>THE MARABUT OF UMM EL FATMA—WAZZEN.</p> <p>Ground slightly undulating on the plateau; rocky and irregular in the valleys. Large quantities of esparto grass and rosemary.</p> <p>Road as above. It crosses the Wadi Tsuls and rises for about $\frac{3}{4}$ hr. It is a very steep track, till it reaches the edge of the plateau again; over the plateau it runs for another $1\frac{3}{4}$ hrs. with a tolerably level and easy surface. Then begins the descent of the western side of the valley of the Wazzen and the slopes of the Ghelb Mari.</p> <p>Wazzen is a little underground village, half-way up the side of the hill, inhabited by about 700 shepherds. There is a Berber fort; 4 wells, of which the nearest are about $\frac{3}{4}$ m. E., near the bed of the wadi of the same name; they have a poor supply of water, and are 65 ft. deep. NW. of the village there is a little spring, neglected but with good water.</p>
2 15	47 0	<p>WAZZEN—DEHIBAT (IN TUNISIA).</p> <p>A caravan road with a firm bottom, descending gently into a wide hollow, with gentle undulations converging towards Dehibat. After the frontier has been passed near the 100th frontier post, it becomes rather better. Nearly 1 m. from Dehibat, close to a cemetery, it meets the road for wheeled traffic coming from Borji Jeneyen. The vegetation is the same as before.</p> <p>Dehibat is a village with fine houses in the middle of a wide depression, on the wadi</p>

Hours	
Inter- mediate	From Jado

of the same name. It is rather an important caravan centre. It stands on the road, fit for wheeled traffic, from Borji Jeneyen to Ben Ghardan, which, for several stages, runs parallel to the frontier. There is a branch road to the SE. leading straight to Ain Ghezzaya and Nalut.

ROUTE 38

NALUT—HASSIAN NALUT—SINAUN

A caravan-route, good for the most part, but stony, with a few rather difficult stretches. After the first stage there is no water. It is 2 hrs. shorter than that by Bir Suzzam. The Turkish telegraph line follows it almost all the way.

Hours	
Inter- mediate	From Nalut
1 30	1 30

NALUT TO THE WELLS OF HASSIAN NALUT.

The valley of the Wadi Kanga and the little valleys running into it have rocky, steep, and broken sides. The bottom is stony in many places.

The caravan road descends steeply and with difficult going towards the S., into the Wadi **Kanga**, and follows its course towards the west. About 1 hr. from Nalut it crosses the oasis of **el Kerbelt** with 13 wells, 3 springs and a large reservoir of good water.

$\frac{1}{4}$ hr. farther on is the other oasis, considerably smaller, of **Hassian Jameat**, containing 7 wells with plenty of good water and not very deep.

Hours		
Inter- mediate	From Nalut	
		The oasis of Hassian Nalut has 16 wells, all in the bottom of the wadi, about 30 or 40 ft. deep with a little wall, parapets, and plenty of good water.
15 0	16 30	THE WELLS OF HASSIAN NALUT TO THE END OF THE SANDY REGION. The road, having surmounted with difficulty the rugged side of the wadi, turns abruptly SSW. and crosses, about 1 hr. from Hassian , the motor road from Nalut to Jado, and then continues, very faintly marked, over flat and rocky or stony country. The sandy region, formed by little dunes of very fine sand, occupies to a great extent the bottom of the Wadi Suzzam and is crossed in about $\frac{3}{4}$ hr. ; difficult going. In a narrow part of the bed of the wadi, to the S., there are some scanty shrubs, among which the caravans halt.
6 30	23 0	FROM THE END OF THE SANDY REGION TO THE PLAIN OF THE MEHARI . Ground level, hard, stony. A good road, with a firm bottom ; rather pebbly, save in the section traversed during the second hr. ; it is crossed from E. to W. by the Wadis el Azzat , Shershuf , Erritsa . After the first $\frac{3}{4}$ hr.'s march the road passes on the E. the little hill of Garat el Harrat . In the plain of the Mehari there is scanty pasturage.
4 0	27 0	FROM THE PLAIN OF THE MEHARI TO SINAUN . After 20 mins. the road crosses with

Hours	
Inter- mediate	From Nalut

difficulty a district of small shifting dunes, for about 1 hr., and enters the *sebkha* of **Sinaun**, where the traces of the road disappear.

For **Sinaun** see p. 195

ROUTE 39

NALUT—AULAD MAHMUD—BIR SUZZAM—SINAUN— SANIET YAKUB—GHADAMES

A good road, on the whole, as far as and beyond Saniet Yakub. It might, with a little trouble, be made fit for wheeled traffic. From Bir Suzzam to Sinaun there are 21 hrs. without water; from Saniet Yakub to Ghadames, 26 hrs. without water fit for men to drink. After the dunes of El Bab there is no pasture to be had. It is best to cross the Bab region in the morning, rather than during the day, on account of the temperature and the direction.

Hours	
Inter- mediate	From Nalut
3 0	3 0

NALUT—AULAD MAHMUD.

Ground rocky and pebbly. The valley of the Wadi Nalut has very steep slopes, deeply worn by erosion.

There is abundant pasture in the wadi.

The two roads which exist are both bad, and become, in many parts, narrow and difficult tracks cut in steps in the rock; one goes down into the Wadi **Nalut** and follows it to the narrow valley of **Aulad Mahmud**, which it ascends towards the S.

Hours		
Inter- mediate	From Nalut	
		<p>The other road, not well known, crosses the Wadi Nalut, proceeding S., rises on to the plateau, and then turns to the E. as far as Aulad Mahmud. Somewhat to the S. of the first road there is plenty of good water in the well of Hangat Buras and the neighbouring spring of Nir.</p> <p>4 wells of good water (only one has a large supply) are in the valley of Aulad Mahmud.</p> <p>The village of Aulad Mahmud, with about 750 inhabitants, is about 550 yds. further to the S., on the edge of the plateau.</p>
5 0	8 0	<p>AULAD MAHMUD—BIR SUZZAM.</p> <p>The surrounding country is undulating. Road rising slightly.</p> <p>Bir Suzzam, at the foot of a hill, is over 100 ft. deep, and has rather a small supply of water, but fresh and good.</p>
2 30	10 30	<p>BIR SUZZAM TO THE 'UNFINISHED WELL'.</p> <p>Road and ground as before.</p> <p>At the bottom of a depression there is a well begun and then left to be filled by the sand.</p>
4 30	15 0	<p>FROM THE 'UNFINISHED WELL' TO THE ISOLATED BUSH.</p> <p>Level road. Ground undulating and barren.</p> <p>The Bush is near the road on the W., in the centre of a pasture district where caravans halt.</p>
3 0	18 0	<p>FROM THE BUSH TO THE END OF THE SANDY TRACT.</p> <p>A stony road. Ground hard and covered with scattered stones. Scanty pasture.</p>

Hours		
Inter- mediate	From Nalut	
		The sandy tract is crossed in about $\frac{1}{4}$ hr. Cross-road connecting with the Hassian Nalut-Sinaun road (see Route 38).
11 0	29 0	FROM THE END OF THE SANDY TRACT TO SINAUN.
		Ground, rocky at first, then alluvial and firm, sandy on certain stretches of the road and near Sinaun. There is an oasis of 400 palms between Fokani and El Otani, 300 palms at Ain Ali, 500 at Shawā, and small groups of palms scattered throughout the district.
		The road, clearly marked, runs over the last part of the plateau for about 9 hrs., descending gently towards the S., and then passes for a few mins. over a short sandy tract, then crosses the <i>sebkha</i> , and in the form of a mere track reaches Sinaun . The telegraph lines follow it, keeping about 120 yds. to the W.
		Sinaun is a group of oases, now rapidly falling into decay, on the bed of a former <i>sebkha</i> .
		At Sinaun camels can be had. Otherwise the country is very poor and has no resources. For description see p. 195.
2 0	31 0	SINAUN—SHAWA.
		A very bad road, interrupted at first by stones, and small broken wadi beds; and then difficult to travel over, as it crosses a line of sand-hills about 150 ft. high.

Hours			
Inter- mediate	From Nalut		
10 0	41 0	SHAWA-SANIET YAKUB.	
		Ground undulating ; and a few flat-topped hills. Pasture for camels, and bushes fit for kindling.	
		This is an excellent caravan road with numerous tracks, a firm bottom, fit for wheeled traffic as it stands. Gentle gradients where it crosses one or two broad wadi beds.	
		The well of Saniet Yakub , in the bed of a large wadi, has two rough drinking troughs for camels. It is 33 ft. deep with plenty of water, slightly saline. Near the well, on a little height, is a large and commodious Fonduk recently built.	
8 30	49 30	SANIET YAKUB TO THE WADI EL BIR.	
		The ground adjoining the road is undulating and firm. Abundant pasture.	
		For 20 mins. the road follows the bed of the wadi towards the W., and then turns again SW., rising gently, continuing good on the whole, with a firm bottom covered with a slight layer of sand. Some tracts are pebbly. There are wide wadis with easy slopes.	
		In the Wadi el Bir , which has a sandy bed, there is a buried well, but there is probably water at a slight depth.	
2 40	52 10	THE WADI EL BIR TO THE BEGINNING OF THE SAND-DUNES (EL BAB).	
		Road and ground as before. The layer of sand increases ; small isolated dunes. No vegetation at all.	

Hours	
Inter- mediate	From Nalut

The dunes of **El Bab** are real hills, high and imposing.

4 35	56 45	FROM THE BEGINNING OF THE SAND-DUNES (EL BAB) TO MEZZEZEM.
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A fatiguing road ; it is divided into three sections, each with special characteristics as regards possibilities of traffic and of surface.

In the 1st section (35 mins.) marching is excessively tiring. The camels sink in and often fall ; there is no trace of a road. The dunes of very fine sand extend as far as the eye can reach to the W., making it very difficult to keep direction.

In the 2nd section (2 hrs.) there is a firm bottom with a few sandy and pebbly stretches. The ground descends gently towards the SW. with slight undulations. It is broken by little stony wadis, and intersected by low lines of dunes, the last outliers of the Great Erg which stretches out to the W. Before entering the *sebkha* the road is joined by the caravan road which comes from Shawa passing by Bir el Atia, from the E., and by the Derj road.

In the 3rd section (2 hrs.) the road continues in the *sebkha*, skirting the dunes which fall steeply on to it from the W. There is difficult going in some parts over wet ground.

At **Mezzezem** there is a ruined fort (*borji*), uninhabited. There is water at 2 or 3 yds. below the surface, turbid and saline (0·7 per cent.), sulphurous, and only drinkable for animals. There are a few wells, surrounded

Inter- mediate	Hours From Nalut	
		<p>by dunes about 6 or 10 ft. high, with a quantity of bushes only fit for firewood. About thirty decrepit palms. At the foot of the hills which bound the <i>sebkha</i> of Mezzezem to the E., it is said that there is a spring of salt water called Ain Debba and a salt pit.</p>
7 30	64' 15	<p>MEZZEZEM—GARA EL HATTABA.</p> <p>In the <i>sebkha</i> there are troublesome crystals of sea-salt and small dunes scattered everywhere. Immediately beyond the <i>sebkha</i> the bottom becomes firm. The ground rises to a plateau, broken by broad wadis, with numerous heaps of fossil shells. There are scanty bushes in the <i>sebkha</i>.</p> <p>The road is fatiguing. In the <i>sebkha</i>, for about 2 hrs., after passing a hill between sandy dunes, the road is reduced to a few tracks where the camels sink in slightly, as they break through the salt crust.</p> <p>Gara el Hattaba is a rugged hill on the W. of the road. The Marabut of Kahf el Gara stands on the top of a height.</p>
3 0	67 15	<p>GARA EL HATTABA—GHADAMES.</p> <p>The road, which at first has a firm bottom in hard and stony country (1½ hrs.), then becomes very fatiguing indeed, as it crosses an arid, slightly undulating, plateau of sandy gypsum, rather like flour, where both man and beast sink in.</p> <p>It becomes better as it approaches Ghadames. From the gypsum dust emerge black and brown flints; far off, here and</p>

Hours	
Inter- mediate	From Nalut

there, *ghurud* with broken sides testify perhaps to a higher level in former ages.

For **Ghadames** see p. 192.

About $1\frac{1}{2}$ m. W. of Ghadames is the little oasis of **Tunin** with about 200 palms, once rather extensive, now completely covered with sand.

From Ghadames there are branch caravan roads : W. to Tunin, and thence to Wargla or to Bir Mulai (both in French territory) ; SE. to Ghat ; SSE. via Bir Ghilzan to Bir el Hassi and via Bir Behima to Bir el Hassi ; and E. to Derj.

ROUTE 40

JOSH—KUTRUS—UMM EL GHARB—FORK OF THE ROAD TO GHADAMES

The first part of the direct caravan road from Josh to Ghadames. It is somewhat difficult on account of the ground, which is irregular and rocky.

Hours	
Inter- mediate	From Josh
6 0	6 0

JOSH—KUTRUS.

For **Josh** see p. 150.

There are caravan roads : SE. to Kerba ; SW. via Dejj to Merghes. The road for wheeled traffic from Azizia to Nalut crosses Josh from E. to W.

During the first 4 hrs. a zone of hills of

Hours	
Inter- mediate	From Josh

detritus, outliers of the western slope of the wadi, stretching in parallel chains at about right angles to the road.

As the wall of the plateau is approached the stones increase in number and size.

The valley of Kutrus is narrow and has very steep sides.

In the hilly district there frequently occur here and there, at the bottom of the hollows, small tracts cultivated with cereals, with a few fig-trees, palms, and olives.

The same occur in the valley near Kutrus. There are scanty thorn bushes and woody scrub.

This is a caravan road, not well defined, with a firm bottom, somewhat stony; cut up by little enclosed pebbly wadis. It starts off in a S. dir. from the Kasr, and after $1\frac{3}{4}$ hrs. leaves on the W. an isolated house on a height at the foot of which are 2 neglected wells (Swani) with a small supply of not very good water. (After this point there is very little information.) About 1 hr. from Josh the upper valley of the Wadi **Ghaddu** is entered (Umm el Gharb is farther upstream), and the road skirts the eastern slope for $\frac{3}{4}$ hr., and then comes out into the valley of Kutrus; it follows this valley upwards, passing, above on the W., the village of **Slamat**.

This last tract is rather stony, but is always practicable for men on horseback.

20 mins. before Kutrus is reached there is a well of good but scanty water.

For **Kutrus** see p. 354.

Hours		
Inter- mediate	From Josh	
3 0	9 0	KUTRUS—UMM EL GHARB.
		Ground hilly with easy slopes. There are a few isolated olive-trees at the bottom of the hollows. Rather thick bushes in patches ; scrub.
		A good caravan road with a firm bottom. For about 35 mins. it follows the Ghenafit road and turns to the S., about 550 yds. after passing a Marabut (to the N.). It crosses the narrow valley of the Wadi Seb , $\frac{1}{2}$ hr. later, and other smaller ones farther on, without any difficulty.
		At Umm el Gharb there is a cross-road, to the W. of which, and about 270 yds. off, rises a ruined tower. After the tower the ground falls steeply to the Wadi Umm el Gharb, in an almost vertical wall, about 165 ft. high. At the bottom lie a little mosque, a Marabut, and a lake which never dries up, in a gorge between sheer walls. A few mins. downstream is a small spring.
		The water is good. About 550 yds. E. of the cross-roads there is another Marabut on a little hill, about 165 ft. high, flanking the road for wheeled traffic to Ghenafit.
		There are branch roads E. to Ghenafit and Jado (fit for wheeled traffic). NW. there is a difficult track which leads to the small lake and then follows the wadi to Josh.
1 30	10 30	UMM EL GHARB TO THE CARRIAGE ROAD FROM JADO TO NALUT (FORK OF THE ROAD TO GHADAMES).
		Ground as before, but with more rugged and rocky slopes. Scanty bushes and scrub.

Hours	
Inter- mediate	From Josh

The road is as before. After $\frac{1}{4}$ hr. it crosses the Wadi **Umm el Gharb** between hilly slopes, and sends off a branch caravan road NE. to Beghighila. The intersection with the carriage road occurs in level country. Close by is the turning off for Ghadames (see Route 41).

ROUTE 41

JADO—SINAUN

An excellent caravan route, fit for wheeled traffic throughout if a little artificial improvement were given to it at El Ogba. It is better to divide up large caravans into smaller parties, because the wells are soon exhausted. It is the most frequented of the roads which connect the edge of the Jebel with Ghadames.

Hours	
Inter- mediate	From Jado

8 30 8 30

JADO TO THE FORK OF THE NALUT ROAD.

The carriage road from Jado-Nalut (see Route 34)

7 30 16 0

FROM THE FORK OF THE NALUT ROAD TO EL GHAZALA.

Ground hilly and generally barren; slightly irregular with rocky outcrop before el Ghazala.

In the plain of el Ghazala (which has a firm and gravelly bottom, with a few Arab tombs) there is pasture for camels.

A caravan road with a firm bottom, fit for wheeled traffic. It leaves the Jado-

Hours		From Jado	
Inter- mediate			
			Nalut road and goes SE., and after about 2 hrs. crosses the place called Ghera Ghenafit which is rich in bushes and scrub on which camels can browse.
17 0	33 0		EL GHAZALA—BIR HARIZ EL OTI. Ground undulating, firm, pebbly ; a few shifting sand-hills besides the zones described on the road. In the vale of Dwir there is a little scrub and wells of water in the rainy season. Road as before. After $1\frac{3}{4}$ hrs. it crosses, quite easily, a zone of low sand-hills, about 100 yds. wide, and $\frac{1}{2}$ hr. later it passes, 2 m. to the W., beyond a zone of small dunes, Bir Saniet er Rajel , 190 ft. deep (easily sanded up, as it has a very low protecting wall), with an unfinished drinking trough and good water, but little of it (it fills again in 4 hrs.). At $1\frac{3}{4}$ hrs. from Saniet er Rajel the road descends and follows for a short space the gravelly bed of the Wadi Shershuk , crosses for about 1,100 yds. a zone of low dunes, easy to traverse, and immediately afterwards the Wadi Dwir . In the bed of this Wadi, 550 yds. S. of the caravan road, is the small valley of Sebta Dwir, where the caravans halt. 2 hrs. from the Wadi Dwir it passes, on the left, the place called Aulad Mahmud with Arab tombs and a branch road to Derj. After 12 hrs. march there is a rise (el Ogba) in the road of about 60 ft., which might be made perfectly fit for motor traffic without much labour.

Hours	
Inter- mediate	From Jado

Bir Hariz el Oti is at the foot of a small height, on which are the ruins of a fort two storeys high, with walls and loopholes: it is $\frac{1}{2}$ hr. SE. of the caravan route, is about 65 ft. deep, and has plenty of slightly saline water. 3 hrs. SE. of this well is **Bir Hariz el Fogi**, about 130 ft. deep, with little water. Pasture for camels.

9 0	42 0	BIR HARIZ EL OTI—SINAUN.
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Road and ground as before: a sandy district with a few dunes between the 2nd and 6th hrs. No vegetation.

In the 5th hr. the road sends out a branch to the well of **Silas**, and 1 hr. later it crosses the Wadi **Silas**, in the bed of which, about $2\frac{1}{2}$ m. to SE., is the well of the same name, with abundant water, slightly saline.

ROUTE 42

ZINTAN—SINAUN

(Polignac—Vatonne, 1862)

A good caravan-route, with firm bottom in most places. After Zintan there are 36 hrs. without water. It appears as if it would be fit for carriages and motors, if a little labour were spent on it. It has never been traversed by our detachments.

Hours	
Inter- mediate	From Zintan
17 0	17 0

ZINTAN TO THE WADI ES SEGHIR.

For **Zintan** see p. 150.

Ground slightly undulating, descending

Hours	
Inter- mediate	From Zintan

gradually after Sidi Ramadan; barley cultivated at the bottom of the hollows; the olive gardens cease after the 2nd hr.; scanty scrub and bushes.

A good caravan road with a firm bottom. It leaves Aulad Dwib in a SW. direction, crosses (near Aulad Sultan) the little valley of the Wadi **Hamian** and others in succession, which form together the head-waters of the Wadi Rusban, and after $1\frac{3}{4}$ hrs. crosses the carriage road from Zintan to Jado. (The corresponding section of this carriage road is $1\frac{1}{4}$ hrs. longer.)

At $8\frac{1}{2}$ hrs. from Zintan it crosses the hollow of **Sidi Ramadan**, a halting-place for caravans, with abundant pasture.

The bed of the Wadi **es Seghir** is a valley between lines of hills of sand and flint (one of these, higher than the others, on the W. is called Twal Hasswan). It is traversed by the track from Umm el Gharb to Bir Mzata (a well of good and abundant water, 165 ft. deep, 6 hrs. to the S.). There are quantities of bushes and scrub on which camels can browse. Immediately after the Wadi the road forks; the southern branch road goes to Derj via Bir el Hassi.

19 0 36 0 THE WADI ES SEGHIR—BIR HARIZ EL FOGI.

Ground as before, covered with a layer of sand. In the 8th hr. the road enters the stony Hammada, in which all trace of vegetation vanishes. In the last stretch there are various wadis with sandy beds; tributaries of the Hariz (Wadi el Hamre);

Hours	
Inter- mediate	From Zintan

in the sandy bed of this wadi, closed in between rocky banks, is Bir Hariz el Fogi with a scanty supply of moderate water; depth about 130 ft. Three hrs. WNW. of this is Bir Hariz el Oti, near the caravan road from Jado to Sinaun.

Road as before, marked by heaps of stones (Hammada). After $1\frac{1}{4}$ hrs. it crosses the **Dra Jawaber**, a line of sandy hills, held together by an abundant growth of shrubs.

Far off, to the E., the outline of Jebel el Haswat is seen, a part of the plateau rising slightly above the Hammada.

12 30	48 30	BIR HARIZ EL FOGI—SINAUN.
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The ground is here and there marked by numerous flat-topped heights with rugged sides, which mark the original level of the plateau, the remains of which, consisting of gypsum and sand, cover the ground with a deep uniform layer, interrupted by outcrops of calcareous rocks.

Road as before. It crosses the Wadi **Shabet Sedra**, tributary of the Silas, and shortly afterwards the **Silas** itself (after $6\frac{1}{2}$ hrs.); in the sandy bed of the Silas is a well of not very good water, about 12 ft. deep, and others buried in the sand.

One of the heights above described, higher than the rest, is the **Jebel el Fezzur** ($1\frac{1}{2}$ hrs. from the Wadi Silas) on the E. side of the road.

ROUTE 43

ZINTAN—WADI ES SEGHIR—BIR EL HASSI—DERJ

(Rohlf's 1865)

This is the shortest of the roads from Zintan to Derj.

Hours		
Inter- mediate	From Zintan	
17 0	17 0	ZINTAN TO THE WADI ES SEGHIR. See Route 42.
7 0	24 0	THE WADI ES SEGHIR—BIR EL HASSI. The caravan road goes off to the SW. from the Zintan—Sinaun road, almost directly after crossing the Wadi es Seghir, and for about 2 hrs. crosses flat country with a few low trees, and then, leaving on the SW. Jebel Keshem el Kabesh, it enters the sandy depression of Areg ed Dul or Areg el Ashaar with vegetation of bushes and scrub. During the last hr. it winds round the western slopes of Jebel Heswa till it reaches Bir el Hassi , a well of brackish water.
11 30	35 30	BIR EL HASSI—JEBEL BOGARI. After about 1 hr. the road descends over a sort of step in the ground (Shasm el Kebir) which is really the boundary of a wide depression called Dakel el Swar , which is crossed in $2\frac{1}{2}$ hrs. It then rises again over a similar step and crosses a desert plain for about 2 hrs. At last it descends gently into the Shab er Retem , a low part of the Hammada , pebbly and bare. Jebel Bogari is a small height W. of the road.

Hours		
Inter- mediate	From Zintan	
12 0	47 30	JEBEL BOGARI TO THE NERDA PLATEAU (INTERSECTION OF CARAVAN ROADS). The road goes on over the Hammada Neila. The ground rises slightly into the Nerda plateau, which is not entirely devoid of vegetation ; here is the meeting-place of the caravan track from Sinaun to Gherat Ben Aguyu (see Route 44).
8 0	55 30	FROM THE NERDA PLATEAU TO BIR UMM EL FRAT (WADI TWIL MASRUK). After a few hrs. the roads descends gently the S. edge of the Nerda plateau. Shortly before reaching Bir Umm el Frat it meets the caravan road from Zintan to Bir Allaj. There are a few bushes.
10 0	65 30	BIR UMM EL FRAT—TAGOTTA (DERJ). See Route 44.

ROUTE 44

ZINTAN—BIR TELAKSIN—BIR ALLAJ—DERJ—
MATRES

(Duveyrier)

Duveyrier, who followed this route in 1860, left no description of it, but from his map it appears that the zones of the plateau and the Hammada which it crosses are unusually bare of resources and without any noteworthy features. In order to gain an idea of the sort of ground compare

Routes 17, 20, and 19, which traverse zones having a similar geological formation.

Hours		
Inter- mediate	From Zintan	
10 30	10 30	ZINTAN—GHERAT ES SEMITA. The caravan road, for about 6 hrs., is the same as the road from Zintan to Sinaun (see Route 42), and then turns to the S. Gherat es Semita is a bushy region in the bed of a wadi.
7 0	17 30	GHERAT ES SEMITA—BURJ MILAD. The caravan road follows the bed of a wadi for about 4 hrs. Burj Milad is a place with apparently an uncertain supply of water.
3 30	21 0	BURJ MILAD—BIR TELAKSIN. Bir Telaksin is a well dry in the summer-time, with a well-preserved masonry revetment about 5 ft. in diameter and 65 ft. deep. Near the well are the ruins of a watch-tower. Sandy dunes to the SE.
5 0	26 0	BIR TELAKSIN—BIR ALLAJ. Ground level, hard, firm ; a few pebbles. For Bir Allaj see Route 20. A fairly well-defined caravan-route, with a firm surface.
27 0	53 0	BIR ALLAJ—GHERAT BEN AGUYU. The road crosses the Hammada Neila. Gherat Ben Aguyu is a bushy place where (apparently) there is a well.
7 0	60 0	GHERAT BEN AGUYU—BIR UMM EL FRAT. The caravan road traverses a wide vale

Hours		
Inter- mediate	From Zintan	
		between the Nerda plateau to the NW. and Keshem ed Dub to the SSE.
		Bir Umm el Frat is a well of good water at the junction of the Wadi Nanar with the Wadi Twil Masruk. Here the road joins the caravan road already described, which comes from Zintan and leads directly to Bir el Hassi (see Route 43).
10 0	70 0	BIR UMM EL FRAT—TAGOTTA.
		The road follows the course of the Wadi Twil Masruk . It enters the oasis of Derj ; near by is Tagotta , a Berber village, with houses built of masonry and a small oasis lying in the bed of the Wadi Twil Masruk and possessing a good supply of water. (The Wadi Twil Masruk is called Wadi Tagotta in this part.)
0	71 0	TAGOTTA—MATRES.
		The road follows the r. bank of the Wadi Twil Masruk. It joins the caravan road, coming from Mizda and passing through Derj, shortly before reaching Matres .
		For continuation to Ghadames see Route 48.

ROUTE 45

ZINTAN—EL OGLA JAFRAT—MIZDA

A good caravan road, fit for wheeled traffic, except in the long hilly section which stretches for about 8 m. from Jebel Mkhareg to the Wadi el Botna. There is water in one spot only, half-way along the road.

Hours		
Inter- mediate	From Zintan	
3 0	3 0	ZINTAN TO THE WADI ZWEYA.
		Ground level, undulating. Olive gardens near Zintan, then some bushes and scrub; barley cultivated in the valleys and a few gardens with fig-trees.
		A good caravan road with a firm bottom and deep tracks. It goes off from the Yefren-Zintan road, about $1\frac{1}{4}$ hrs. SSE. of Zintan, near some Roman ruins (550 yds. to the E.). The direction is SE.
		There is a cistern $\frac{1}{4}$ m. before reaching the Wadi Zweya near the caves of Salem Abd el Hafid .
		The Wadi Zweya has a bed 330 yds. wide with thick jujube bushes and tracts cultivated with cereals.
5 30	8 30	THE WADI ZWEYA TO THE BEGINNING OF THE PLAIN OF SKTIB BRAHMA.
		Ground as before with no perennial vegetation.
		A caravan road with a firm bottom, fit for wheeled traffic. There are slight rises and falls in crossing the Wadis Mebdwa ($1\frac{1}{2}$ hrs. from the Wadi Mweia), Wardia

Inter- mediate	Hours From Zintan	
		(¾ hr. from the Wadi Mebdwa), and Ghenadi (1 hr. from the Wadi Wardia).
5 0	13 30	FROM THE BEGINNING OF THE PLAIN OF SKTIB BRAHMA TO EL OGLA JAFRAT.
		Ground absolutely level, pebbly; scrub bushes thickest in the beds of the wadis.
		Road as before.
		At El Ogl Jafrat are 13 wells dug in the bed of the Wadi Sofejin, without parapets, and in great part sanded over (5 have turbid water, drinkable when filtered); on a little hill are the ruins of a building, the material of which has been used to protect the wells; 550 yds. W. are rough hovels of masonry and pits for barley; fields of barley.
5 15	18 45	EL OGLA JAFRAT TO THE FOOT OF JEBEL MKHAREG.
		Ground level, sandy, rocky outcrops on the banks of the Sofejin, and with earthy patches in the Wadi Umm Jonia; various shrubs, thickest in the beds of the wadis where there are also tracts cultivated with barley.
		A good caravan road with a firm sandy bottom, for the greater part fit for wheeled traffic.
		Proceeding SE., it follows for 1½ hrs. the bed of the Sofejin, which then assumes the name of Wadi Waera. It then crosses without difficulty the beds of various wadis (the course of the Sofejin in the 2nd and 3rd hrs.; the Wadi Umm Jonia after another ¾ hr., with rather thick vegetation which

Inter- mediate	Hours From Zintan	
•		<p>impedes carriages; the Wadi Belish and other smaller wadis during the last hour).</p> <p>The mass of Jebel Mkhareg bars and dominates the valley of the Sofejin.</p>
2 0	20 45	<p>FROM THE FOOT OF JEBEL MKHAREG TO THE WADI EL BOTNA TEDIAN (THE FORK OF THE ROAD TO SHEGHEGA).</p> <p>Ground hilly, sandy in the flat and hollow places, rocky on the spurs traversed by the caravan road. Vegetation and cultivation as before.</p> <p>A good caravan road with a firm bottom and easy gradients. It might be made fit for wheeled traffic by a small amount of labour, at the crossing of the passes of Jebel Mkhareg ($\frac{3}{4}$ hr. on), of Gata Fasel min Gharba (1 hr. from the foot of the hill), and of many little wadis, of which the chief is the Wadi el Bolja.</p> <p>This spot in the Wadi el Botna is suitable for a camping ground, on account of the thick shade given by the numerous pistachio and jujube-trees, the abundance of firewood to be obtained from the various bushes, and the water of the wells of Sheghega, not 10 miles away.</p>
1 45	22 30	<p>WADI EL BOTNA TEDIAN (FORK OF THE ROAD TO SHEGHEGA) TO THE WADI FESEL.</p> <p>Ground and vegetation as before.</p> <p>Road as before. It descends gently towards the Fesel (Sofejin). Works of some extent are needed to make it fit for wheeled</p>

Hours		
Inter- mediate	From Zintan	
		<p>traffic in the stretch comprised between the two last spurs of the Jebel Gata Fasel min Gharba, which is crossed in the 1st hr., and also in the dangerous stretch which follows immediately afterwards, squeezed in between a steep declivity and a ravine.</p> <p>The Wadi Fesel (Sofejin) has a sandy bed.</p>
1 45	24 15	<p>THE WADI FESEL TO THE HEAD OF THE WADI UMM EL HERAN.</p> <p>A level zone of shifting dunes along the Wadi Aghira, and then hilly and irregular country. Vegetation scanty, scrub and bushes.</p> <p>A difficult section. The road, after crossing the Fesel, follows the Wadi Aghira upwards for 1 hr. as far as a Roman milestone. The bottom is sandy, the road rises slightly going in an ESE. dir.</p> <p>Having surmounted the steep edge of the Wadi Aghira, it turns S.; the road bottom becomes rocky, and the beds of two torrents are crossed with some difficulty.</p> <p>The banks at the head of the Wadi Umm el Heran are steep and broken.</p>
3 15	27 30	<p>FROM THE HEAD OF THE WADI UMM EL HERAN TO MIZDA.</p> <p>Ground undulating, with a short sandy stretch along the Wadi Mersiga (2 hrs. on), and a somewhat sandy and stony zone during the last $\frac{1}{2}$ hr.; scanty scrub and undergrowth in the beds of the wadis.</p> <p>A road fit for wheeled traffic, slightly falling for the first $1\frac{1}{2}$ hrs. and then level. It crosses various wadis, without any trouble.</p>

ROUTE 46

KASR YEFREN—MIZDA

An ill-defined caravan route, with a firm bottom, probably fit for motors.

Hours	
Inter- mediate	From Yefren
2 45	2 45

YEFREN—PONTE RUMIA.

See Route 33.

3 30	6 15	PONTE RUMIA—HOSH.
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The caravan road, not very well defined, goes off from the carriage-road at the bridge (Ponte Rumia) and follows the Wadi **Karruba** (Rumia) as far as its head, passing on the W. the groups of houses **Hajj Aissa** and **Arab Umm Milad**, both on little hills. It then proceeds over slightly undulating, firm ground, cut up by wadis with gently sloping banks. Towards the E. is a hilly region which comes nearer, as the road continues S.

The trees (olives) cease after a few m.; and there only remain shrubs and scanty bushes, especially at the bottom of the hollows, a few of which are cultivated with barley.

In the place called **Hosh** are a few huts and Arab tents and two cisterns at the bottom of a little wadi.

5 15	11 30	HOSH—KASR WAMES.
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Vegetation very thin; ground undulating with a few sandy tracts. Road as before. After 5 hrs. it leaves on the W. **Kasr Wames**,

Inter- mediate	Hours	From Yefren
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visible a long way off, a square building of Roman construction with two storeys and a small observation tower. It is in fairly good preservation and is used by the natives to store the harvest of barley and maize, sown in the neighbouring fields.

The crossing of the Wadi **Wames**, which is rather shut in, would be difficult for vehicles. In its bed, about $\frac{1}{2}$ hr. to S., are the three cisterns called **Moajen Maatresh**. There is a branch road E. to the wells of El Ogla Jafrat.

2 30	14 0	KASR WAMES—SHEGHEGA.
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The track, following partly the course of a Roman road on which a few milestones still remain, runs over a level, sandy bit of ground, crossed from N. to S. by various wadis which are tributaries of the Sofejin, with gently sloping banks, offering no difficulty for wheeled traffic (Wadi **Wames**, Wadi **Umm Rukuba**, 20 mins. on, Wadi **Shereb Eddiba**, 1 hr. on, Wadi **Hamar**, 2 hrs. from Kasr Wames).

After the Wadi Shereb Eddiba, the traces of the ancient Roman road go off to the SE. The 12 wells of **Sheghega** are in a large sandy hollow; 7 are sanded up; the rest afford good and abundant water at a depth of about $3\frac{1}{2}$ ft.

Branch roads: S. to the valley of the Wadi Fesel, and thence to Bir el Hamer or Mizda; SSE. (not very clear) to the Wadi Aghira and Mizda.

Hours	
Inter- mediate	From Yefren
7 30	21 30

SHEGHEGA—MIZDA.

Road (in an ESE. dir.) and vegetation as before.

Ground level, sometimes stony, sometimes sandy.

Various tracts of shifting dunes, rather fatiguing to traverse, are crossed.

After about 5 hrs. the road comes out into the valley of the Wadi **Shaerab**, which the road for wheeled traffic from Gharian to Mizda follows.

For continuation see Route 48

ROUTE 47

KASR GHARIAN—TESHA—MIZDA

This road has been lately made fit for wheeled traffic. For the greater part of its length it follows the old caravan route and the ancient Roman road, of which some milestones still remain.

Hours	
Inter- mediate	From Gharian
2 0	2 0

GHARIAN—BU ZAYAN

See Route 32.

1 30	3 30
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BU ZAYAN—KULEBA.

Hilly ground. Olive gardens, not very closely planted ; small fields here and there ; cereals cultivated. The road turns off from the Gharian—Yefren road almost immediately after passing **Bu Zayan**, and proceeds E. for

Hours	
Inter- mediate	From Gharian

10 mins.; it then turns to the SE. After $\frac{1}{2}$ hr. it passes, on the W., the underground villages of **Megharba** and **Ben Wasir** on small hills, crosses the Wadi **Tiffah**, goes over a ridge, passing near the small hamlet of **Shemsa**, and comes out into the valley of the Wadi **Kuleba**, which it follows up to its head.

Kuleba, at the head of the wadi of the same name, is a village with masonry houses and a number of good cisterns. There is a road branching off W. to Sheghega.

4 30

8 0

KULEBA-KHORMET EL ANSHA.

Road as before. Rather thick esparto grass; scanty *batum* bushes and a few jujube bushes in the beds of the wadis.

The road takes a W. dir. for a short time, and then turns S., skirting the western slopes of the heights of **Twil Kemir** and **Twil Seba**. It is accompanied on the W. by the course of the Wadi Gadama, and crosses a few small tributaries of that wadi.

Having crossed the wadi itself, near the cistern of **Mshad el Marabtin**, it leaves the hilly zone on the W. and traverses a level piece of country (the plains of **Janduma** and **Gadama**) of the same stony sort as before. About 1 hr. from the Wadi Gadama it crosses the Wadi **Shutan el Barrarish** and other smaller wadis, which, together with those already described, form the head of the Wadi Tfalgo. During the first 4 m. cisterns at the side of the road are numerous.

Khormet el Ansha is a low hilly spur

Hours		From Gharian	
Inter- mediate			
			jutting out from the W. into the valley of the Wadi Tfalgo.
7 0	15 0		KHORMET EL ANSHA-TESHA.
			Road and ground as before; scrub for firewood; a few small scattered tracts cultivated with barley.
			The road crosses, during the first 3 hrs., other hilly spurs like that already described, divided by the courses of the Wadis Ghani, Mejaghia, and Shebeb Ahmed ben Jafer ($2\frac{1}{4}$ hrs. from Kasr Ansha), Shabet el Ghiddim and Wadi Umm Medfa (from which a short cut, used by caravans, goes off and leaves the wells of Tesha on the E.). These wadis are all tributaries of the Tfalgo. The road then enters on the wide plain of Tesha , taking a slight bend to SSE.
			About $\frac{1}{2}$ hr. before reaching Tesha it cuts across the angle of the Wadi Tfalgo, at the point where the plain narrows, shut in between the farthest slopes of the Kahf Umm el Zummit on the W. and the heights of Twil el Ogla on the E.
			The wells of Tesha , on the r. bank of the Wadi Tfalgo and E. of the road, are 8 in number; 4 of them are sanded up, the others have a very plentiful supply of good water and pumps to draw it with.
3 15	18 15		TESHA TO THE WADI LELLA.
			Scanty scrub.
			After $\frac{3}{4}$ hr. the road passes on the W. the ruins called Kasr Zummit on a little height, and then crosses some small wadis, tribu-

Hours		
Inter- mediate	From Gharian	
		taries of the Tfalgo, which is called here the Wadi Tesha ; $1\frac{1}{2}$ hrs. from Tesha it enters through the narrow defile of Berber (or Khormet Bugarra) the valley of the Wadi of the same name, which it crosses at various points till it joins the Wadi Lella . At Khormet Bugarra the short cut described above joins the road again.
		In the Wadi Lella are traces of Roman agriculture, and of works intended to conserve the rain-water.
2 45	21 0	WADI LELLA—MIZDA.
		The road crosses, for about $1\frac{1}{2}$ hrs., a large depression, bounded on the S. by a low hilly spur, Kahf Khormet el Shehad. When this has been crossed, the road becomes sandy and absolutely bare in patches.
		For Mizda see p. 151.

ROUTE 48

MIZDA—SWANI FESSANO—DERJ—GHADAMES

(Rohlfs 1865)

A very long caravan route, rather difficult on account of the scarcity of water ; from Swani Fessano to Bir Nasra 54 hrs. without water ; from Bir Zogran to Ghadames about 20 hrs. without water.

Hours		
Inter- mediate	From Mizda	
7 0	7 0	MIZDA—SWANI FESSANO.
		The caravan road, of which the bottom is too soft for wheeled traffic, does not pass

Inter- mediate	Hours		From Mizda	
				through Swani Fessano, but, 1 hr. away, at the junction of the Wadi Fessano with the Wadi Ghelbana , it follows the valley of the latter, and near the head of it, sends out a branch road to the well (about 20 mins. off), see Route 49.
2 0	9 0			SWANI FESSANO TO THE CROSSING OF THE ZINTAN-FEZZAN CARAVAN ROAD. The road runs in a SW. direction. About 6-7 m. to the SW., Kahf Masusa can be seen.
9 30	18 30			FROM THE CROSSING ABOVE-MENTIONED TO KHORM RESHADA. The caravan road, crossing bare and rocky ground, approaches Kahf Masusa, passing over an outlier called Keshem el Kabesh , about 5 hrs. from the cross-roads. Khorm Reshada is a passage through a line of heights, another spur of Kahf Masusa.
9 0	27 30			KHORM RESHADA-BU SFAR. The road comes out on to a region called Areg es Seba , which, though sandy, is rich in vegetation both of grass and shrubs; here in spring the nomads of Zintan lead their flocks to pasture. After this the road enters on firm and stony country (Gro es Swanin), in which some scrub-covered hollows are also found. After about 1½ hrs. it crosses the little Wadi Agadir et Traber , tributary of the Wadi el Keil. There is abundant pasture for camels

Hours		
Inter- mediate	From Mizda	
		throughout this stage. At Bu Sfar , in the Wadi el Keil, the road crosses the caravan road from Zintan to Bir el Kelab (about 6 hrs. distant).
11 0	38 30	<p>BU SFAR—JUF JUF.</p> <p>The road runs through the valley of the Wadi el Keil, shut in by steep sides, about 130–65 ft. high. In the bottom of the wadi are a number of caverns, in one of which are sculptures and inscriptions.</p> <p>The road then enters on the true Hammada, stony and bare.</p> <p>The Mellaha is a large depression, where water collects during the winter and, as it evaporates, leaves salt crystals which provide for the needs of the inhabitants of Mizda and for the nomads. Besides this <i>mellaha</i> there are two others : one slightly to the S. another further off to the SW., with water which is not fit to drink.</p>
15 30	54 0	<p>JUF JUF—BIR NASRA.</p> <p>After 5 hrs. the road enters another depression called Atua, which it crosses in 1½ hrs., passing Jebel Atua on the SE.</p> <p>Bir Nasra, in a bushy hollow, has a scanty supply of water.</p>
12 30	66 30	<p>BIR NASRA TO THE WADI MIMUN.</p> <p>The track turns to the W. and crosses the Wadi Assam, which runs from S. to N. and then continuing W., joins the Wadi Mimun, of which the valley (3 m. wide) is bounded by the low Kersha hills. Into this flows a small</p>

Hours		From Mizda	
Inter- mediate			
			wadi called El Bir in which there is a well about 2½ hrs. off.
11 0	77 30		WADI MIMUN TO THE KHORM EL KSEB. After passing the Jebel Mimun , the road comes out into a wide salt plain in the centre of which are depressions like those already described ; the most remarkable of these are Melfa (5 hrs. from the Wadi Mimun), and Ghera , 1½ hrs. later. The road then crosses the Khorm Twil en Nailat and enters another <i>sebkha</i> , from which it issues through the Khorm el Kseb .
3 30	81 0		KHORM EL KSEB—DERJ. The road crosses the valley of the Wadi el Kottab , tributary of the Wadi Mimun, rich in bushes fit for firewood, and then traverses the last part of the plateau and reaches Derj. Derj , i. e. Step, is so called on account of its situation on a step (or ledge) between the higher level of the <i>Hammada</i> and that of the Wadi Timarut, which at this point has a surface-water at all seasons. The territory comprises 4 villages : Derj, Tugutta, and Tefelfelt which are Berber, and Matres which is Arab. Each of these has an oasis ; the smallest is Tefelfelt. The best cultivated of the oases is that of Derj, with 1,700 palms ; see p. 195.
2 30	83 30		DERJ—MATRES. The track follows the Wadi Assas , which assumes the name of Wadi Melha and turns, with many windings, to the W.

Hours	
Inter- mediate	From Mizda

Matres is the capital of the Mudiria of Derj ; it is the only Arab village belonging to it and has about 100 inhabitants, camel drivers by profession ; it has a little oasis, almost abandoned, mostly belonging to natives of Ghadames.

14 30	98 0	MATRES—JEBEL KRAB.
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The caravan road skirts the Wadi Melha and, after $1\frac{1}{2}$ hrs., enters it and follows its course, passing on the S., in the valley of a tributary, **Bir Zogran** with good water.

$3\frac{1}{2}$ hrs. from Matres, it leaves the wadi, and crosses it again 5 hrs. later, after passing through mountainous district ; it then surmounts another high region as far as the Wadi **Krab**, along the western bank of which rises the Jebel of the same name.

6 30	104 30	JEBEL KRAB—GHADAMES.
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A zone entirely bare of vegetation ; a small wadi at half-way.

For **Ghadames** see p. 192.

ROUTE 49

NALUT—SANIET ER RAJEL—BIR EL KELAB—
SWANI FESSANO—MIZDA

The road runs in a general ESE. dir., in the central part of the Jebel, cutting across all the communications between the northern edge of the Jebel and Ghadames and Derj.

Hours		
Inter- mediate	From Nalut	
3 0	3 0	NALUT—AULAD MAHMUD. See Route 39.
3 45	6 45	AULAD MAHMUD—RODA. Ground slightly undulating, firm. The caravan road has a firm bottom, fit for wheeled traffic even in the two short sandy stretches which occur respectively after 1 hr. and $3\frac{1}{4}$ hrs. march. The second stretch has a deep layer of sand which is rather difficult to get over. Roda is a famous place of pilgrimage, with a mosque and three marabuts at the foot of a rocky hill, visible at some distance. Close by there is the beginning of a well.
2 30	9 15	RODA—GRO ES STAH. Road and ground as before. Before reaching Gro es Stah there is a perfectly flat level portion called Abdalla's Terrace (Stah). At Gro es Stah are jujube-trees and barley fields, bushes (for fuel) and pasture.
7 0	16 15	GRO ES STAH—SANIET ER RAJEL. Road and ground as before. Saniet er Rajel , in a round hollow about

Hours			
Inter- mediate	From Nalut		
			60 ft. deep, is itself about 190 ft. deep, with plenty of water, fit for men to drink, when filtered. It is easily sanded up, having a very low protecting wall. There is a branch caravan road N. to Kabao and Tizi.
0 45	17 0	SANIET ER RAJEL TO THE JADO-SINAUN CARAVAN ROAD.	
			Road as before ; ground firm and sandy ; bushes. Just before the caravan road is reached are 4 Arab tombs. The point where the roads meet is about 18 hrs. from Jado and 24 hrs. from Sinaun.
4 0	21 0	FROM THE JADO-SINAUN CARAVAN ROAD TO GORA MERAI.	
			Ground hilly, here and there interrupted by numerous sand-hills which are hard to avoid. Scanty bushes and scrub, on which camels can browse. There is no road ; guides take the straightest way. Gora Merai is a region with a few thorny bushes where the road crosses the Bir Mzata-Haraba caravan road.
5 0	26 0	GORA MERAI TO THE WADI ES SEGHIR.	
			Ground slightly undulating, with fewer and lower sand-hills than in the preceding stage. After 2 hrs. it cuts across the Zintan-Sinaun-Ghadames caravan road and, $\frac{3}{4}$ hr. later, the Zintan-Derj-Ghadames road.

Hours Inter- mediate	From Nalut	
		<p>Vegetation as before.</p> <p>The Wadi es Seghir is marked by a dip of the ground between two lines of dunes, running N. and S.</p>
3 15	29 15	<p>THE WADI ES SEGHIR TO BIR MZATA.</p> <p>The track partly follows the wadi, with some difficulty on account of the frequent sand-hills, and partly skirts along it, keeping on level, hard and stony ground.</p> <p>Bir Mzata is in the middle of a level, sandy region which during the rainy season receives the waters of the Wadi es Seghir, so that the cultivation of barley is possible there. The well is 164 ft. deep, and has a good and relatively abundant supply of water, but once exhausted, it takes some time to refill. There is a post of gendarmes here.</p>
4 0	33 15	<p>BIR MZATA—BIR ALLAJ.</p> <p>Track, ground, and vegetation as above, for the first $2\frac{1}{2}$ hrs.; after which, having passed through a small defile, it climbs a wide ledge about 60 ft. high, which forces wheeled traffic to seek another way.</p> <p>Then having passed a bush-covered belt of ground called Gherat Musa, the caravan road becomes clearly marked, on hard ground, bare of vegetation and fit for wheeled traffic in every direction.</p> <p>Bir Allaj is a well about 80 ft. deep, with turbid and slightly brackish water, not very abundant. To the W. there is a hovel about 1 m. off; close by there are some huts and</p>

Hours		
Inter- mediate	From Nalut	
		bushes ; there is a branch road S. via Derj to Ghadames.
7 0	40 15	<p>BIR ALLAJ—BIR EL KELAB.</p> <p>Ground level, hard, stony, traversable in all directions, devoid of vegetation. $\frac{1}{2}$ hr. before reaching Bir el Kelab, there is a branch road N. to Bir Telaksin.</p> <p>The caravan road, still well defined and with a firm bottom, turns ESE. After 35 mins. it crosses a bush-covered belt of country called Gherat Besbas, where there are 3 sanded-up wells, and then after 1 hr. 20 mins., another similar district, called Gherat Dogman, with a well, also completely buried ; at last in 2 hrs. more it reaches Gro Abderrahman, an isolated group of jujube bushes. From here the road turns ENE.</p> <p>Bir el Kelab, in the form of a funnel and 90 ft. deep, has a supply of saline water, about sufficient for 10 camels, and a sheltering wall.</p> <p>To the SE. is a small rise called Twil Moghareb, to the E. a thicket of jujube-trees and a rude fort with a post of gendarmes. A few huts. There are branch roads : SW. via Derj to Ghadames ; S. to Fezzan ; N. to Zintan.</p>
2 0	42 15	<p>BIR EL KELAB—BIR EL MORAHAN.</p> <p>• Road, ground, and vegetation as above. After about $1\frac{1}{4}$ hrs. it passes over a line of fairly high hills.</p> <p>Bir el Morahan is about 110 ft. deep, and</p>

Inter- mediate	Hours	From Nalut	
			has a plentiful supply of good water (enough for 4,000 camels); three drinking-troughs. It is situated in the middle of a large hollow, bounded by two concentric lines of heights (Batta es Seghir to the W., Batta el Kebir to the E.) in which the Wadi Letle disappears.
6 0	48 15		BIR EL MORAHAN—BIR EL HAMER. Road and ground as before. After about $4\frac{1}{2}$ hrs. the road passes over a line of small heights, called El Ma Turukbani , on which follows a short sandy district with scrub. There is scrub which affords browsing for camels in some of the sandy stretches. Bir el Hamer , with a parapet and 4 drinking-troughs, is about 110 ft. deep, and has good and abundant water (enough for 4,000 camels). Close to the well is a cemetery.
4 0	52 15		BIR EL HAMER—SWANI JEDIDA. Road, ground, and vegetation as above. Half-way there is a line of heights called Argub Sahaned which continues to the S. in the Kahf Twal Sheb. Swani Jedida , 105 ft. deep, has hard and saline water, but drinkable by the natives. It is rather scanty in quantity (enough for 100 camels). A stone drinking-trough.
5 30	57 45		SWANI JEDIDA—SWANI FESSANO. Road, ground, and vegetation as above. After about 4 hrs., having crossed in its eastern part the highest ridge of the whole

Inter- mediate	Hours From Nalut
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plateau, which forms the watershed between the basin of the Sofejin and the country already traversed, the road enters the valley of the Wadi **Shtibi Bismar** which, together with the other right-hand tributaries, Shtibi Menakh and Endeliba, forms the Wadi Fessano.

Swani Fessano, somewhat to the W. of the course of the Wadi, is 65 ft. deep, has slightly brackish and rather hard water, but drinkable, relatively abundant (for 1,000 camels) and 3 stone drinking troughs.

There is a branch road S. to Derj and Ghadames.

7 30 65 15 **SWANI FESSANO—MIZDA.**

The valley of the Wadi Fessano is shut in by heights (about 165 ft. high) separated by little tributaries. The bed of the wadi is enclosed by precipitous walls, uniform in appearance and about 12 or 15 ft. high. The bottom of the valley is sandy and difficult to traverse in many parts. There are thick scrub and bushes in various parts of the bottom of the valley and where the wadis come in; in the rainy season there is a large extent of barley cultivated.

The road is no longer fit for wheeled traffic. During the first hr. there is a choice of two routes, of which one follows the Wadi **Fessano**, while the other crosses the heights on its r. bank and descends again through the valley of the tributary Wadi **Jebbana**.

Near the first route and about 25 mins.

Hours	
Inter- mediate	From Nalut

from Swani Fessano, at the junction with the Wadi **Siaan**, to the NW., is a buried well.

After another $2\frac{1}{4}$ hrs. it crosses the caravan road from Kikla to the Wadi Masusa (Fezzan) and $\frac{1}{2}$ hr. later it comes out into the valley of the **Sofejin**, the sandy bed of which it follows for about 1 hr. as far as its junction with the Wadi **Tegan**, which comes from the S. at about two-thirds way. In the next $2\frac{1}{2}$ hrs. the r. bank of the Sofejin is followed and then the wadi itself is crossed, near where the Wadi **Dulman** joins it, and the l. bank followed as far as **Mizda**.

For Mizda, see p. 151.

ROUTE 50

- TIZI—KABAO—SANIET ER RAJEL

A caravan road, rather difficult during the rise on to the plateau. Not well defined for the last 5 hrs.

Hours	
Inter- mediate	From Tizi
4 30	4 30

TIZI TO THE DEBOUCHMENT INTO THE PLAIN OF THE WADI MUGUR.

Ground first rather level, then becoming gradually harder and stony and undulating. Scanty scrub and bushes; some patches of barley.

A caravan road, not very wide, in some places ill-defined, stony, slightly rising.

Hours Inter- mediate	From Tizi	
		During the last few m. it skirts the Wadi Mugur on the W.
1 40	6 10	FROM THE DEBOUCHMENT OF THE WADI MUGUR TO KABAO.
		<p>The road is a mule-track. It crosses a tributary of the Wadi Mugur and rises for 40 mins. along the western slope of the wadi, zigzagging and rising steeply. In this stretch it is cut in the rock, crossed by little narrow wadis and covered with pebbles, which make it difficult for pack animals. At the head of the Wadi Mugur, according to information given by natives, there is said to be a well with a plentiful supply of good water, Saniet Zenier. When it reaches the plateau the road improves, proceeding over gently undulating firm ground. After 35 mins. it descends along a little wadi at the head of the Wadi Kabao and then rises again to the village.</p> <p>The vegetation in the valleys consists of bushes and a few isolated trees; on the plateau, at the bottom of the hollows, gardens with palms and olives and a few fig-trees are found, and patches of barley are numerous.</p> <p>For Kabao see p. 357.</p>
2 30	8 40	KABAO TO THE JADO-NALUT CARRIAGE-ROAD.
		<p>Ground as above for 1 hr., then slightly undulating, with a general fall towards the S. Fit for wheeled traffic, firm and gravelly, except for some stretches with sand-hills.</p>

Inter- mediate	Hours	From Tizi	
			<p>At the fork of the road to Serus, the trees cease and only scrub remains with a few thin patches of bush ; $\frac{1}{4}$ m. before the crossing of the Jado-Nalut road, the telegraph line is struck.</p> <p>A good caravan road, level and with a good bottom. It rounds the head of the Wadi Kabao and continues in a SSE. dir. After 1 hr. there is a branch road E. to Serus and 1 hr. 10 mins. later, in a zone of sand-hills, there is a branch caravan road to Sinaun.</p>
5 45	14 25		<p>FROM THE JADO-NALUT CARRIAGE-ROAD TO THE WADI THEMET KARABU.</p> <p>Ground is at first slightly undulating, and crossed by the beds of not very deep wadis. It is not very hard. Level, with a few dunes. (This region is called Twama.)</p> <p>Vegetation as before in the first stretch, then none at all.</p> <p>A caravan road fit for wheeled traffic, not well defined. It crosses for a few mins. a belt of little dunes, cutting across a large bend of the Wadi Manzila and reaches the Wadi Nakhla. After the Wadi Nakhla there is no trace of a road, because the track of the caravans turns E. towards Yefren.</p> <p>In the Wadi Themet Karabu (which has a SE. dir.) there are 5 buried wells.</p>
2 15	16 40		<p>THE WADI THEMET KARABU-SANIET ER RAJEL.</p> <p>Ground becoming more and more undulating, but always with very gentle slopes.</p> <p>After about 1 hr. the road crosses the beds</p>

Hours		
Inter- mediate	From Tizi	
		of the 2 wadis Ed Dabdada and Melaghi (a well begun and abandoned), fairly near together.
		For Saniet er Rajel , see p. 396.

ROUTE 51

MIZDA—BIR NESMA—BIR SEGHENNA

An ill-defined caravan road, which traverses the valley of the Sofejin, connecting its watering-places and cultivated parts. As landmarks the numerous Roman ruins are important, dotted along the wide valley and indicating its former splendour.

Hours		
Inter- mediate	From Mizda	
5 30	5 30	MIZDA TO THE RUINS OF UMM EL KHERAB.
		Mizda. Capital of Mudiria (District of the Jebel) with a total population not yet ascertained. It is an important halting-place for caravans coming from Fezzan to Gharian. The village close to the confluence of the Wadi Shaerab and the Sofejin is divided into two parts, El Faulkia the larger, and El Watia, about 550 yds. apart, and the same distance from a fort, on the S., near the bed of the Sofejin. The inhabitants total about 600. The rough houses of masonry have occasional towers.
		The oasis comprises about a hundred palms, almost all of them close to Mizda el Faulkia, and about 20 wells, from 15 to 30 ft.

Hours	
Inter- mediate	From Mizda

deep, with water more or less saline, and only drinkable in a few cases. There is a Senussi *zawia*. Garrison, residency, station of the Royal Carabineers.

Branch roads fit for wheeled traffic : N. to Gharian ; S. to Gheriat. Caravan roads : N. to Yefren ; W. to Zintan ; SW. to Bir el Kelab and Ghadames ; E. to Bir Nesma and Bir Seghenna.

The valley of the Sofejin, about 1 m. to $2\frac{1}{2}$ m. wide, runs shut in between chains of mountains which, although they appear at first high and precipitous, descend gradually into a vast plateau from which the tributaries debouch, enclosed between regular and steeply sloping sides. All the spurs thus formed look like three sides of a truncated pyramid. It is often possible to see in them the regular way in which the strata are superposed. The bottom is barely practicable owing to the frequent sand-hills alternating with belts of stone or sand.

In the level zones at the places where the wadis meet, and in the depressions, are occasional clumps of shrubs and many fields of barley, thick bushes and scrub, which afford abundant pasturage for camels and flocks.

The ruins of Umm el Kherab are on a height at the point where the wadi of that name comes in, and in this wadi, about $\frac{1}{4}$ hr. further S., are also the interesting remains of Kahf Waji Aamer, probably a Christian basilica.

Hours	
Inter- mediate	From Mizda

The road, recently constructed, is fit for wheeled traffic for the first $1\frac{1}{2}$ hrs.; after that it becomes a good caravan road. For the 1st hr. the road runs through the valley of the Sofejin, keeping to the stony l. bank, after which it enters its sandy bed, which is interrupted by shifting dunes, just beyond the confluence of the Wadi **Lella**. This point is marked by the ruins of **Kasr Zweia** to the N. and of **Kasr Usertin** to the S., on the two hills which face each other on opposite sides of the Sofejin.

$1\frac{1}{2}$ hrs. from Mizda the caravan road leaves the Sofejin, crosses on its l. bank the region (cultivated with barley) of **Umm es Seder el Bu Tera**, ascends the valley of the tributary Wadi **Seder**, which emerges from the Dafen Abdun el Naih mountains and passing through the gorge of **Karima** (2 hrs. 30 mins. from Mizda), enters the valley of the Wadi **Saga**, which it follows until it comes out into the Wadi **Kseba**.

After $\frac{1}{4}$ hr. the road divides: one branch follows the **Kseba**, crosses the **Sofejin**, and having passed over a hilly region on the l. bank, descends again into its bed at the confluence of the **Karmet esh Shita**. The other branch (the one described), on the other hand, follows the enclosed valley of a r. bank tributary of the Kseba and rejoins the road for wheeled traffic at the gorge of Jebibina.

The road for wheeled traffic on the other hand follows the Sofejin for 3 hrs. as far as the confluence of the Wadi **Kseba** and then

Inter- mediate	Hours From Mizda	
		<p>rises, following the valley to Jebibina, having passed which it turns off again ($\frac{3}{4}$ hr. from the Wadi Kseba) towards Gheria, while the caravan road continues to the SE. and descends into the valley of the Sofejin, re-entering its bed immediately after having crossed the level region called El Melga, where the two western tributaries, the Wadi Botma and the Wadi Tasghilat, meet, $1\frac{1}{4}$ m. from Umm el Kherab.</p>
2 45	8 15	<p>UMM EL KHERAB TO THE WADI UMM ET TALHA.</p> <p>The bottom of the Sofejin is sandy with a few shifting sand-hills of reddish hue.</p> <p>Tracts cultivated with barley in the wadi—thick <i>retem</i> shrubs and tamarisks in the bed of the Sofejin.</p> <p>Road as above. It follows the bed of the Sofejin as far as the confluence of the Wadi Karmet es Shita (coming from N., 1 hr. from Umm el Kherab), followed by the caravan road coming direct from Mizda. Then it runs along the r. bank leaving 550 yds. to the S. the ruins of Kasr Neghissa of which two high walls remain standing, and on the other side of the valley on a spur of the Kahf es Shita the ruins of Abiet, which stand out owing to their light colour from the dark background of the mountain.</p> <p>At $1\frac{1}{2}$ hrs. from Umm el Kherab it returns to the bed of the Sofejin, leaving to the N. after 10 mins. the confluence of the Wadi Shita and to the S. the confluences of the two little Wadis Siket el Nisa el Fogi and el Oti,</p>

Inter- mediate	Hours From Mizda	
		<p>with precipitous valleys crossed by numerous ancient barriers of stone.</p> <p>Shortly before reaching the confluence of the tributary Wadi Umm et Talha the road crosses a low spur coming from the mountains of the same name. After 10 mins. ascent up the Wadi Umm et Talha the ruins of the Kasr of the same name, on an isolated hill in the valley, are reached.</p>
3 45	12 0	<p>THE WADI UMM ET TALHA—BIR NESMA.</p> <p>The bottom of the valley narrows after the Wadi Negassa, becoming only 550 yds. wide after the Wadi Bol er Rug. The l. bank is stony, while the r. is sandy.</p> <p>Tracts thickly overgrown with shrubs (<i>talha</i>, <i>ethel</i> or <i>tholh</i>) are very frequent in the bed of the Sofejin before the Wadi Barghut and at the confluences and in the beds of the various tributaries, whilst scrub for fodder is rather scarce.</p> <p>Road as above. It crosses the Sofejin and follows the l. bank. After about 1 hr. it leaves, on the N. on a spur of the Kahf Negassa, the Kasr Barghut, while on the opposite bank the wadi of the same name discharges itself into the Sofejin. It has a small valley cultivated with barley.</p> <p>After another hr. the road crosses, near its confluence with the Sofejin, the Wadi Negassa enclosed between two hills surmounted by Roman ruins. In the easternmost ruins, a subterranean reservoir with external conduit, is noteworthy, in the other a fine door with a Roman arch, decorated with designs</p>

Hours	
Inter- mediate	From Mizda

and sculptures. Finally in 10 mins. the marabut of **Sidi Abd en Nebi** is reached shortly before the confluence of the Wadi Bol er Rug, which has stony bed, covered with numerous *talha* shrubs. $\frac{3}{4}$ m. further on to the S. are the ruins of Kasr Bol er Rug. $\frac{1}{2}$ hr. from the Wadi Bol er Rug the road crosses the Wadi **Nesma**, a l.-bank tributary, the bed of which is thickly covered with acacia and *retem*. Then it cuts off a bend of the Sofejin.

Bir Nesma is at the confluence of the wadi of the same name, at a point where the valley of the Sofejin widens into a stony plain without vegetation. It is a very ancient well, faced with stone, about 100 ft. deep, with abundant and fairly good water, with frame and pulleys.

About 1 m. to the NE. of the well is a ruin, probably that of a funeral monument, with interesting and delicate sculptures, fairly well preserved.

Another ruin of the same kind near by. To the N., on an isolated hillock, a heap of ruins. To the SE., on the opposite bank of the Sofejin, a few Arab huts belong to tribesmen of the Aulad Bu Sif, temporarily engaged in cultivation.

Caravan roads branch off NW. to Tesha and SSE. via Bir Umm el Keil to Fezzan.

3	5	15	5	BIR NESMA—SWANI SHEDEWA (AND AIN EL MSRAG).
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The heights flanking the valley become gradually lower. As far as the Wadi Mzi

Hours	
Inter- mediate	From Mizda

the bottom of the valley is sandy with many shifting sand-hills and is covered with thick *retem* and scrub for fodder.

Road as before. After $\frac{1}{2}$ hr. it crosses the Sofejin and continues along its r. bank, and 50 mins. from Nesma it leaves on the S. the ruins of **Kasr Nesma** on an elevation; half-way up the ascent leading to it is an ancient ruined reservoir with an external conduit, and the entrance (made of squared blocks) to some grottos which still serve as shelters for the shepherds. On the opposite bank more ruins, those of two **Kasr Remta**, 230 yds. distant from each other, to the E. of the mouth of the Wadi **Remta** which is followed by the caravan route to Beni Ulid.

After another $\frac{3}{4}$ hr. it comes out into the wide valley of the Wadi **Mzi**, a southern tributary of the Sofejin, stony and bare to begin with, but becoming sandy and full of bushes at a distance of $1\frac{1}{4}$ m. from the road.

On its western slope $\frac{3}{4}$ m. from the Sofejin there are some Roman cisterns buried in sand, and $\frac{1}{4}$ m. further up stream are the ruins of a house.

On the opposite slope of the valley of the **Mzi** about $2\frac{1}{2}$ m. from its mouth are the ruins of a Roman tower of three storeys, with its enclosing wall. $\frac{1}{4}$ hr. after, in crossing the valley of the **Mzi**, about $1\frac{1}{4}$ m. wide, the road becomes stony, resuming later the characteristics already described.

Swani Shedewa to the S. of the mouth of

Hours Inter- mediate	From Mizda	
		<p>a small tributary, is a well about 200 ft. deep, with good water, not very plentiful.</p> <p>From here a branch road goes S. to Ain el Msrag—Bir Ben Azhar—Gheriat.</p> <p>Ain el Msrag (40 mins. to the S.) is a large cavity about 55 yds. in diameter at the mouth, and about 330 ft. in depth. The water is found in a spacious cavern, in the centre of which the fallen earth has formed a heap on to which it is necessary to descend in order to push the ropes sideways to reach the water, which is good and inexhaustible.</p>
9 30	24 35	<p>SWANI SHEDEWA—BIR TENINAI.</p> <p>Ground hard, compact, gravelly. The N. slope of the Sofejin at this point is level and not very high. The valleys of the tributaries are large depressions with undefined boundaries, in which the courses of the wadis are not distinguishable. During the last $1\frac{1}{2}$ hrs. the ground rises into the hilly zone of Jebel Eswed, so called from its dark colour.</p> <p>Some grassy patches, in the deepest part of the depressions, and a few bushes; in the remaining part no vegetation.</p> <p>Road as above. After $\frac{1}{4}$ hr. it crosses the Wadi Dreder, near the confluence with the Sofejin, and 1 hr. on, the Wadi Msrag near which to the S., at the end of the sand-hill zone, there is a hill surmounted by a ruined funeral monument. The road now leaves the valley of the Sofejin; it becomes tiring owing to the sand which it has to cross. It ascends a stony hill, beyond which it descends into</p>

Hours	
Inter- mediate	From Mizda

the valley of the Wadi **Dafet Ser.** In this valley and exactly at the place called **Ruis Tabel**, there are some wells of rain-water and a cistern which contains water for 4 months in the year.

The road, having ascended a hill covered with dark gravel, crosses the valley of the Wadi **Faras**, and $1\frac{1}{4}$ hrs. from the Wadi Msrag crosses a caravan road, Gharian to the Sofejin, which comes from the NW. Then in succession it crosses the valleys of the Wadis **Matula** (1 hr. from the caravan road above mentioned) and **Auter** (1 hr. 30 mins. further on). This latter is stony, with occasional shrubs. The road next enters the **Jebel Eswed** and after another $3\frac{1}{2}$ hrs. it reaches **Kasr Teninai**, a ruin of a small ancient temple, with blocks covered with inscriptions, and descends into the valley of the same name.

Bir Teninai is in the bed of the wadi of the same name, which has a sandy bottom intensively cultivated with barley, with many bushes and scrub.

The water of the well (65 ft. deep) is not very abundant.

6 25 31 0 BIR TENINAI—BIR SHEMEG.

The distances of this stage are not exact owing to the uncertainty of the information.

Ground and vegetation as above.

Road as above. It follows the bed of the Teninai for $1\frac{1}{4}$ hrs. as far as two groups of ruins (**Teninai es Sed**) 520 yds. apart, one on each side of the road. From here it (the

Hours	
Inter- mediate	From Mizda

road) takes an ENE. direction, and after another 25 mins. it leaves on the l. other ruins of large and bold construction, with fine decorated gates; this was probably a fortress.

After 35 mins. the road crosses the valley of the Wadi **Tamania**, and in succession, the valley of the Wadi **Gargar**, after 20 mins., and that of the Wadi **Argus** after another hr. Then in 15 mins. it reaches the **Kasr Argus**, a large building with a high wall, from which can be seen, about 3 m. to the N., the Orfella village of Siaan, with stone houses and cottages. About 20 mins. from Kasr Argus the road enters the bed of the Wadi **Sama** and follows it until it debouches into the Sofejin, which it then ascends.

Shemeg is the capital of a mudiria of the Kaza of Orfella. The inclusive number of the inhabitants amounts to 2,600. It is composed of several villages, scattered on both banks of the Sofejin and the Wadi Shemeg, with houses of masonry. The most important is the one called Sekba on the Kahf Mergab between the confluence of the Wadi Shemeg and that of the Wadi Sama with the Sofejin.

The well of Shemeg, near the confluence of the wadi of the same name, is very old, faced with stone, with a parapet, depth 100 ft., good and very abundant water. There are also pulleys, and large stone basins.

Branch roads: for wheeled traffic N. to Kasr Beni Ulid; S. to Bir Bu Feja and Bu Njem. Caravan roads SW. via Bir Tatar to Fezzan.

Hours		
Inter- mediate		From Mizda
2 0		33 0

SHEMEG—BIR JEMAMLA.

The whole valley of the Sofejin is cultivated with barley. There are also a few fig-trees, and some shrubs and bushes, specially towards the end of the stage.

Road and ground as above.

The road runs along the Sofejin valley, which has a N. dir., and after $\frac{1}{2}$ hr. leaves to the E. the Wadi **Aulad el Wash**, in which there are a few stone-built houses and the gendarme station of Shemeg. After another $\frac{1}{4}$ hr. the road leaves to the NW. on an eminence the village of **Grea**, on the l. bank of the wadi of the same name, with fig-trees and barley-fields.

The road from here continues in the valley of the Sofejin, turning to the E. and passing, on both sides, the mouths of several little tributaries, of which the most noteworthy are the two Wadis **Atermia**, just before **Jemamla**, which come from opposite slopes.

Bir Jemamla, on the l. bank of the Sofejin, is a well about 65 ft. in depth with fairly good water, and a low wall, half in ruins. In the neighbourhood of the well there are shrubs for fuel and bushes.

3 0 36 0 BIR JEMAMLA TO THE WADI URUREG.

The valley of the Sofejin narrows from a width of 550 yds. to 320 yds.

Many *retem* bushes and many *talha* trees are found in the valleys of the numerous tributaries; in the remaining parts a few bushes, and extensive barley cultivation.

Opposite the confluence of the Wadi

Hours		
Inter- mediate	From Mizda	
		Urureg (to the S.) there is a ruined cistern. In the valley of the Wadi Urureg about $\frac{1}{2}$ hr. upstream is the Bir of the same name, with good water, not very abundant, 165 ft. deep. It has a pulley.
		Road as above, dir. E.
		After 40 mins. the road leaves on the N. the mouth of the Wadi Ghizlam , flanked by two ruined forts; there is a well, 82 ft. deep, in the bottom of the valley, with bad water, and a few Arab houses near by.
2 15	38 15	THE WADI URUREG (BIR) TO THE WADI TALHA (BIR).
		Outside the valley of the Sofejin, there are bare and stony heights.
		The part of the valley of the Sofejin from the Wadi el Aremba to the Wadi Talha is called <i>Ethel</i> on account of the abundance of this shrub. Bushes and scrub.
		Road as above. It follows the valley of the Sofejin as far as the confluence of Wadi El Aremba (one of the right-bank tributaries) then it leaves it, in a SE. direction, running along the heights on the r. and leaving after 1 hr., on the S., a group of three Arab houses. In another $\frac{1}{2}$ hr. the road reaches Saadat , a village with houses of masonry permanently inhabited.
		Bir Talha. In a large level zone of the valley of the Talha (a tributary of the Sofejin) is found a well 40 ft. deep, not lined, with pulley. It has fairly good but scanty water.
		Branch caravan roads: N. to Beni Ulid, 15 hrs. distant; and SE. to Bu Njem.

Hours	
Inter- mediate	From Mizda
2 20	40 35

BIR TALHA TO THE WADI SEGHENNA (Bir).

Ground sandy in the bed of the Sofejin ; then little hills which turn into a monotonous and stony plain. Vegetation scanty and similar to the above.

Road as above. It descends the valley of the Wadi Talha, following its r. bank as far as its confluence with the Sofejin, which at this point reaches its greatest width (1½ hrs. from the Bir Talha) ; then leaving on the SE. a group of houses, inhabited during the period of cultivation, it follows the valley of the Sofejin.

The mouth of the Wadi Seghenna is wide and bounded by hillocks, about 30 ft. in height. At **Bir Seghenna**, in the Wadi of the same name, 35 mins. above the confluence, are two wells, with scanty and muddy water. The lower one is often dry.

ROUTE 52**BIR NESMA—TESHA**

Good caravan road, fairly well trodden, by means of which other roads, coming from Orfella and Fezzan, are linked with the very important Mizda-Gharian-Tripoli road.

Hours	
Inter- mediate	From Bir Nesma
4 0	4 0

BIR NESMA—MAAMURA.

The bottom of the valley is wide, level, and is easy going for the first hr., it then

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D d

Inter- mediate	Hours	From Bir Nesma	
			<p>becomes uneven and winding, with vast sandy zones.</p> <p>Numerous shrubs and <i>batum</i> trees, scrub and bushes.</p> <p>Road with a gravelly bottom fairly firm, in many stretches sandy, dir. NW. It follows the valley of the Wadi Nesma, crossing several times the bed of the Wadi. After 3 hrs. it leaves to the E. a height of blackish hue, called Twil Sema, faced on the opposite slope a little farther down-stream, by the ruins (Roman ?) of Kasr Shabet et Tarik.</p> <p>Maamura, a heap of stones to the W. of the road, is a sacred spot where the natives halt for prayer.</p>
1 30	5 30		<p>MAAMURA—EL GUZ.</p> <p>Hilly, broken ground, with some rocky and some sandy stretches.</p> <p>Vegetation as above.</p> <p>The road is a caravan road with a firm bottom. It leaves the valley of the Nesma and ascends its eastern slope, to descend into the valley of the Wadi Tfalgo.</p> <p>El Guz is a Roman well in the valley of the Wadi Tfalgo. Its depth is about 90 ft., with good and plentiful water. The region round about is called by the same name. It is very fertile and cultivated with cereals.</p>
6 30	12 0		<p>EL GUZ—TESHA.</p> <p>Ground and road as above, in the valley of the Wadi Tfalgo, which in the last stretch takes the name of Wadi Tessa.</p>

Hours	
Inter- mediate	From Bir Nesma

After $4\frac{1}{2}$ hrs. the road becomes excellent, and could be made fit for motor-cars with little labour.

For **Tesha** see p. 390.

ROUTE 53

KHOMS—ZLITEN—MISURATA—MISURATA PORT

The road has a firm bottom, largely artificial, and is in regular use by motors. For three-quarters of its length it runs through an unbroken oasis. It keeps a few miles from the sea. It is followed by the telegraph line.

Hours	
Inter- mediate	From Khoms
0 45	0 45

KHOMS TO THE WADI LEBDA.

For **Khoms** see p. 141.

This is a long, narrow, very fertile level region, with a minimum width of 3,300 yds., enclosed within the last hilly buttresses of the Jebel and the sea. This region extends as far as Zliten, covered by a luxuriant and unbroken oasis, thickly inhabited. Along the wadis which cross it (with gravelly and stony beds and shut in between high and steep banks) there are open spaces cultivated with barley or left for pasture.

Artificial road 6–8 yds. in width. There are steep places to be surmounted in the crossing of 2 deeply enclosed Wadis. It leaves

Hours	
Inter- mediate	From Khoms

Khoms by the Lebda gate, crosses the oasis for $\frac{1}{2}$ hr. then leaves it to the S.

To the N. the marble ruins of **Lebda** extend for about 3 m. on either bank of the wadi of the same name. They are half-buried in the dunes, but are still extensive and imposing. In the wadi, 5 mins. to the N., is the well-known **Lebda** spring, with good and abundant water; 3 m. to the S. are the Hillocks, an ancient causeway, about 2,200 yds. long, parallel to the coast, and ending on the Wadi with a fine Roman dyke, still in good preservation.

Here the oasis ends.

2 15	3 0	THE WADI LEBDA—SUK EL KHAMIS.
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Road, ground, and vegetation as above.

After $\frac{1}{4}$ hr., 550 yds. to the N., is the **Hammanji** hill, at the northern foot of which is a well, with a pump, with very abundant and good water, and drinking troughs. 330 yds. to the S. is Mt. **Hamman**, with the ruins of the fort of the Mutessarif. Shortly after the oasis of the Sahel begins.

Suk el Khamis (Thursday market) is a large square surrounded by several houses and fonduks, on the l. bank of the Wadi **Hasnum**, which runs enclosed between precipitous banks. There are also houses on the opposite bank.

Capital of the Mudiria of the Sahel, comprising a population of 16,000 inhabitants, the larger part of which is scattered throughout the oasis; plentiful water, in some of the wells slightly saline. Station of Royal

Hours		From Khoms	
Inter- mediate			
			Carabineers. Garrison. Post and telegraph service.
3 0	6 0		SUK EL KHAMIS TO THE WADI KAAM.
			Ground and vegetation as above.
			The oasis of the Sahel ends, a few m. before the Wadi Kaam, in a zone thickly covered with olive-trees, called Zeitun, in which the hamlet of Ugra is concealed.
			About 2 m. to the NW. of this region lie Point Tbiah and the adjacent Marsa Ugra, a small bay, where small fishing boats can land. Then follows, for about $1\frac{1}{2}$ m., a region completely denuded of trees.
			In the Wadi Kaam (Kinyps), with a deeply cut bed containing slabs of rock, running water is found in the last reach of about $1\frac{1}{2}$ m. beginning from the ruins of a Roman aqueduct, close to the road.
4 0	10 0		THE WADI KAAM-ZLITEN.
			Road, ground, and vegetation as above. After 10 mins. the oasis of Zliten begins, and after another 1 hr. 25 mins. the road leaves to the S. the branch caravan road, which leads via Kasr Ashur to Suk el Juma , a village with 1,000 inhabitants and a station of Royal Carabineers, near which a Roman tower in rather good preservation is noteworthy.
			Shortly after this there is a stretch of <i>sebkha</i> for 15 mins.
			30 mins. before reaching Zliten the road reaches the cross-roads of Khaddus (branch roads, E. direct to Misurata, S. to Orfella).

Hours		
Inter- mediate	From Khoms	
		To the S. of the cross-roads there is a small village of the same name. Zliten (see p. 144).
3 30	13 30	ZLITEN—SHEFE. Road, ground, and vegetation as above. After 35 mins. the road leaves to the S. the caravan road which goes off via Et Tlata (30 mins. off) to Tawerga, and after 15 mins. passes between the 2 marabuts of Sidi Silim to the N. and Sidi el Fituri to the S., and 1 hr. 5 mins. from Zliten, near Kasr Abadla (where the Royal Carabineer station of Ataia is), the road comes out of the oasis and continues skirting on the N. its southern edge. Shefe , at the eastern extremity of the oasis, has a few houses, and 2 wells with good water, and is a halting-place for caravans. 770 yds. to the NE. of Shefe is the marabut of Sidi Ben Gur.
6 15	19 45	SHEFE—BU RUEIA. Ground slightly undulating, and in some parts rocky, some sandy. Pasture, scrub, fields of barley. Good road, in some stretches rather sandy. After 2½ hrs. the well of Bu Selim , to the N. of the road, is passed; it is 125 ft. deep and has scanty water; another well in the same state is found at Girigiba , about 1½ hrs. farther on. ½ hr. beyond Girigiba, about ¾ m. to the N. of the road on an eminence, is the marabut of Kom Jelud . Bu Rueia is a small oasis with a few palms,

Inter- mediate	Hours From Khoms	
		and wells with good and plentiful water ; it is a resting-place for caravans.
3 30	23 15	<p>BU RUEIA—MISURATA.</p> <p>Undulating ground and sandy dunes lie between the oases in the long stretch which the road skirts to the S.</p> <p>Road as above. At 25 mins. from Bu Rueia the oasis of Zawiet el Mahjub begins, and a few mins. later a branch road to N. is passed, leading to the hamlet of the same name (40 mins. distant), with about 900 inhabs. Good and abundant water ; station of the Royal Carabineers.</p> <p>The above oasis is followed by the oasis of Gheran, the principal settlement of which, Sidi Marek, with over 700 inhabs., is reached after another $\frac{3}{4}$ hr.</p> <p>Near Sidi Marek the road for wheeled traffic to Beni Ulid (see Route 57) goes off to the S., and a little beyond this the oasis of Gheran comes to an end. In another $\frac{1}{2}$ hr. the oasis of Misurata (see p. 144) is reached near the hamlet of Faratza (with about 450 inhabs.). Then the road passes through the hamlet of Swala (350 inhabs.), with station of Royal Carabineers ; and $\frac{1}{2}$ hr. from Faratza there is a branch road to Saraksa, an important settlement with a station of Royal Carabineers.</p>
3 0	26 15	<p>MISURATA—MISURATA PORT.</p> <p>Road, ground, and vegetation as above.</p> <p>After 30 mins. the road leaves to the S. the large homesteads of Ras Bu Kmar and</p>

Hours	
Inter- mediate	From Khoms

Ras et Tuba with about 300 inhabs., and to the N. that of **Grara** with 800.

At 15 mins. from this point the road passes, for $\frac{1}{2}$ hr., through a zone of dunes until the village of **Zarrug** (with 700 inhabs.) is reached; there is drinking water, and a station of Royal Carabineers. At 35 mins. from Zarrug the oasis comes to an end, and the few palm-trees which grow to the N. of the road join it to the oasis of **Kasr Ahmed**, so-called from the big village which is passed through after another 1 hr. 15 mins. Just beyond Kasr Ahmed (where live more than 700 inhabs.) the road leaves to the S. the branch road fit for wheeled traffic to Sirte.

Misurata Port, see p. 144.

ROUTE 54

KASR TARHUNA—KASR BENI ULID

Road without water, as the few cisterns contain it only for a few months in the year. As far as Darbuk it is a good road fit for wheeled traffic; the rest of the way motors are liable to use up tyres very rapidly, owing to the numerous stretches of flints.

Hours	
Inter- mediate	From Tarhuna
2 0	2 0

TARHUNA TO THE SANDY ZONE.

The ground is a series of undulations in an E.-W. dir., which become gradually less marked the farther Tarhuna is left

Hours	
Inter- mediate	From Tarhuna

behind. The bottom is firm and compact, with the exception of a sandy tract or two towards the end of the stage. Small wadis, with barely distinguishable banks, run across the road.

Occasional bushes and scrub, low-lying parts cultivated with barley.

Road fit for wheeled traffic, with a firm natural bottom, recently artificially improved.

It leaves the *Kasr* in a SSW. dir., leaving to the W. the well of **Sheikh Saadi** and to the E. another (public) well, with abundant and good water, and after about $\frac{3}{4}$ hr. it runs shut in between two hills of no great height, of which the western is surmounted by the ruins called **Kasr Hamed**, and the eastern (SE. of the first) by a large house (**Saniet Saadi**); 10 mins. farther on the road crosses the Wadi **Saadi**, which has very easy banks. From here, for about $\frac{1}{2}$ hr., the bottom becomes less firm, and at the end of the stretch the cistern of **Barakat** is reached, near some excavated caves at the foot of a little hill. The general dir. is S.

The zone of sandy dunes is crossed near its beginning by the Wadi **Abd es Samad es Sultani**, and has at about its centre a striking isolated palm-tree.

2 15

4 15

FROM THE BEGINNING OF THE SANDY ZONE
TO KASR TENZINA.

Ground compact and firm with occasional sandy or flinty tracts, slight undulations at the beginning of the stage. Very scanty vegetation confined to a little scrub as far

Hours	
Inter- mediate	From Tarhuna

as the Wadi Gmet; then, numerous fields of barley, scrub, pasturage in the wet season.

Road fit for wheeled traffic with firm natural bottom. Dir. SSE. It is accompanied by the Turkish telegraph line. After crossing the sandy zone in about 20 mins., it runs through an extensive plain called **Tin Siwa**. The road follows in part, and crosses the watersheds of the tributaries, containing water during the rains, forming the basin of the Wadi Gmet, which is left after $1\frac{1}{2}$ hrs.

Kasr Tenzina is a pile of ruins, probably Roman, -770 yds. to the W. of the road. About $1\frac{1}{4}$ m. SE. of the river are the cisterns of Sheikh Abd es Samad, in the bed of the Wadi Remt.

4 0 8 15 **KASR TENZINA—USTAD.**

After the 1st hr. the ground becomes soft, with some stones. There are undulations formed by rocky hills and dunes. Bushes, various shrubs, patches of grass and barley in the beds of the wadis, specially in the Wadi Ustad.

Road as before. It follows for a short distance the course of the Wadi **Tenzina** and then goes up that of the tributary **Dayat**. After about 2 hrs. it leaves on the E. a hilly ridge called **Ras Tummit**, and after another 20 mins. passes on the W. **Kasr Aagharbia**, probably a Roman ruin. It then follows the wadi of the same name to its confluence with the wide Wadi **Maader**, and then, after climbing over a saddle, to the E. of which rises the height of Ras el Maader,

Inter- mediate	Hours From Tarahuna	
		it enters the wide valley of the Wadi Ustad where there are ruins of ancient dams.
		The two cisterns of Ustad , not to be depended on for water even in the rainy season, are probably ancient, like the pile of ruins not far to the NNE. of them. $1\frac{1}{2}$ m. to the SW. there is a Roman ruin called Kasr Hanesh.
2 0	10 15	USTAD—DARBUK. Ground undulating as before, but with more frequent stony stretches. Rosemary bushes, scrub, and a few small trees. Road as before. About half-way it enters the valley of the Wadi Okhirra , which is thickly covered towards the E. with shrubs and bushes. At Darbuk there is a little valley (Gherat) with scrub interspersed in bare and pebbly ground. 5 mins. to the E. are the three cisterns of Ali el Ajemi .
8 0	18 15	DARBUK TO THE HEAD OF THE WADI DINAR. Ground undulating and covered with sharp stones. Scrub and bushes of rosemary. The road is a caravan road, fit for wheeled traffic. After about 4 hrs. it passes over outcrops of bare calcareous rock. At the head of the Wadi Dinar , a rocky terraced ridge has to be crossed, and this presents some trouble to vehicles.
3 30	21 45	FROM THE HEAD OF THE WADI DINAR TO WHERE THE TELEGRAPH LINES TURN OFF FROM THE WADI. The valley of the Wadi Dinar, narrow and

Hours Inter- mediate	From Tarhuna	
		<p>rather stony for the first hr., then widens, and there are in places level earthy stretches ; but the frequent fractures in the underlying strata of rock, and the patches of stones which have been arranged across the road, make progress difficult.</p> <p>Vegetation as before.</p> <p>Road as before, with several difficult bits for vehicles. It follows the valley of the Wadi Dinar. After 1 hr. it passes on the S. a jutting-out mass of rock and the ruins of an ancient <i>kasr</i>.</p> <p>At the end of the stage, the Wadi Dinar turns E., and the telegraph line climbs over a ridge and continues in a straight line S.</p> <p>A little beyond the wadi the road goes through a defile between two hills surmounted by ancient ruins.</p>
3 0	24 45	<p>FROM THE TURNING OFF OF THE TELEGRAPH LINES TO KASR BENI ULID.</p> <p>Ground hard, covered with sharp stones ; sandy tracts, very thin scrub.</p> <p>The caravan road accompanies the telegraph line. Vehicles cannot follow it on account of the number and size of the stones ; they traverse the defile above mentioned, keeping to the Wadi Dinar for another $\frac{1}{4}$ hr., and then they also turn to the S.</p> <p>In order to reach Kasr Beni Ulid the road descends a small tributary of the Wadi Beni Ulid, between the two villages of Hosna to the N. and Helma to the SW. It crosses the bottom of the wadi, which is covered by</p>

Hours	
Inter- mediate	From Tarhuna

an oasis, where olives preponderate, and then ascends the spur on which the village is situated, making a turn half-way up the hill.

For **Kasr Beni Ulid** see p. 158.

ROUTE 55

ZLITEN—KASR BENI ULID

Good caravan road, the greater part of it practicable for wheeled traffic (except in the stretch from the 15th to the 20th hr.); water-supply uncertain in the second half of its course.

Hours	
Inter- mediate	From Zliten
1 0	1 0

ZLITEN TO THE SOUTHERN BOUNDARY OF THE OASIS.

For **Zliten** see p. 144.

Level oasis very well cultivated, full of olive-trees, especially in the most southerly part, with many wells of slightly saline water.

The road is fit for wheeled traffic, having been artificially improved. It leaves Zliten in a S. dir., and for the first 25 mins. it follows the Khoms road, marked by the telegraph line, and crosses the large suburb of **Aulad Sheikh**. Thence it continues in the same dir. (while the Khoms road proceeds W.), and after 10 mins. it reaches the little hamlet of **Khaddus**, in a belt of scrub, from where a road, fit for wheels, diverges

Hours		
Inter- mediate	From Zliten	
		to the SE. to Sdeiat ; directly after this the road leaves on the W. the other hamlet of Kseba , with the marabut of Sidi Dakhili, and continues, crossing the depression of the Wadi Tabaret .
2 0	3 0	FROM THE SOUTHERN BOUNDARY OF THE OASIS TO BIR LAZHER (NEDWAR). With the exception of very small depressions, planted with olive-trees, and fields of barley, there are only occasional bushes, scrub, and coarse grass. Road as above. After 25 mins. the road crosses a small zone cultivated with olives and barley, called Senad , and another similar one is left to the W., after $\frac{1}{2}$ hr., close to the point where a road fit for wheeled traffic goes off to Jemaa. Up to this point the ground is level and compact. Then begins a region of small rocky hills, in the low-lying parts of which there are small patches of olive-trees and fields. (Tabket is 25 mins. from the above place, Bu Ksab 10 mins. farther on.) Bir Lazher , with good and abundant water (?), is to the W. of the road in a hollow called Nedwar, cultivated with olives and barley.
1 15	4 15	BIR LAZHER—BIR DALIM. The ground is undulating, descending towards the S. into the wide basin of the Majer. Scanty scrub, and bushes. Road as before.

Hours	
Inter- mediate	From Zliten

Bir Dalim, near a pile of ruins, is a well 130 ft. deep with good and abundant water. It lies to the W. of the road and about $\frac{1}{4}$ m. to the S. of a house which crowns one of the heights which bound, on the NW., the vast basin of the Majer (this depression extends towards the NE. as far as the oasis of Sdeiat).

4 45 9 0 BIR DALIM—MAJEN EL GHISH.

Gentle undulations. The wadis which intersect the ground are nothing but large depressions, of which the earthy soil is in many places cultivated with barley in long stretches, and covered with bushes, shrubs, and grass for pasturage. There are also a few isolated olive-trees. Besides this, there is only the usual scrub.

Caravan road with a firm bottom, although rather stony, is passable for vehicles. The road ascends the latter part of the Wadi Majen, and about 1 hr. from Bir Dalim it leaves to the W. the marabut of **Sidi Surur**, and on the other side, about 300 yds. off, the large cistern of **Draya** which contains a maximum of about 17,500 cub. ft. of water. 330 yds. to the SW. there is another Roman ruin.

Shortly after this the road enters the depression of Wadi **Ajjaj**, which it follows for about $1\frac{1}{4}$ hrs., leaving to the W. **Erghayet Ajjaj**, a small height on its western slope. 550 yds. to the S. of it is Bir Shefa, a well (or cistern) with good and abundant water. The region is dotted with ruins of ancient Roman towers on a wide front extending

Hours	
Inter- mediate	From Zliten

from E. to W. On the hills which flank the wadi some ten can be counted.

After about $\frac{1}{2}$ hr. the road leaves the Wadi Ajja and runs through a desert plain (plateau) for 25 mins., then it crosses the depression of the Wadi **el Aggar**, and a little farther on that of the Wadi **Bu el Hannash**.

Majen el Ghish, about $\frac{3}{4}$ m. to the E. of the caravan road, is a cistern 20 ft. in depth, with a capacity of about 700 cub. ft.

1 45	10 45	MAJEN EL GHISH TO THE WADI FET.
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A level plateau with some stones ; scanty scrub, and a few bushes, thicker in the wadis, which are barely defined by slight hollows in the ground.

Road as above, with some stones. After about 1 hr. the Wadi **el Turk** is crossed.

In the Wadi **Fet** rather thicker scrub, and a swamp, which holds water for the greater part of the year, called Sheikh Salem.

4 15	15 0	THE WADI FET—SIDI EL OGUL
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The plateau becomes more and more barren. Scrub and a few bushes in the wadis.

Road as above, in many places not very clearly marked.

After 2 hrs. the road crosses the Wadi **Es Sagarat**, and after another hr. the Wadi **El Wezzi** which marks the boundary between the *kaza* of Zliten and that of Orfella.

After $\frac{1}{2}$ hr. it descends into the bed of the Wadi **Faras**, which it follows. In the wadi itself in the wet season there are numerous

Hours		
Inter- mediate	From Zliten	
		wells, in which the rain-water collects for a certain time.
		The marabut of Sidi el Ogul is on the eastern bank of the Wadi Faras about 550 yds. from the road; a little farther on it is faced on the opposite bank by a Roman ruin called Kasr Shawia.
4 0	19 0	SIDI EL OGUL TO THE WADI TMESLA.
		Level, bare, stony ground. The beds of the wadis deepen and widen gradually more and more as one proceeds S.
		Vegetation as above.
		Stony, not well defined caravan road, not fit for wheeled traffic. After 1 hr. the road leaves the Wadi Faras, and in $\frac{3}{4}$ hr. it joins and crosses the Wadi Mersin , a tributary of which it crosses in another $\frac{1}{2}$ hr. 45 mins. from this the road crosses the Wadi Mansur , beyond which the caravan road seems to have been recently repaired.
		In the Wadi Tmesla , near the caravan road, are two Roman ruins, with two cisterns which hold water for some months.
3 0	22 0	THE WADI TMESLA—KASR BENI ULID.
		Road, ground, and vegetation as above.
		After $\frac{1}{2}$ hr. the Wadi Dinar is crossed. Its banks are rather steep and the caravan road is difficult to discern.
		After 2 hrs. the road leaves to the E. the little village of Aulad Ben Tellis , and after another $\frac{1}{2}$ hr. it reaches the head of a very small wadi, enclosed between the two hamlets of Hosna and Terba . Following the

Hours	
Inter- mediate	From Zliten

valley of this the road descends into the bed of the Wadi **Beni Ulid**, and follows it near its western side until it joins the Tarhuna-Beni Ulid road, which also crosses the wadi. For **Kasr Beni Ulid** see p. 158.

ROUTE 56

ZLITEN—TAWERGA

Caravan road, in fairly constant use, but not yet entirely gone over by our detachments. Information beyond the oasis of Zliten is therefore scanty.

Hours	
Inter- mediate	From Zliten
1 5	1 5

ZLITEN—SUK ET TLATA.

Level and prosperous oasis, with cultivation of various kinds.

The road (a caravan road) branches off towards the S. from the road fit for wheeled traffic from Zliten to Misurata at about 35 mins. from Zliten. At the point of departure, but towards the W., a road goes to Khaddus and Khoms.

Suk et Tlata is an important village, because from it roads branch in every direction. Among them is noteworthy the one which runs WSW. to Sdeiat and the Majer.

3 55	5 0
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SUK ET TLATA TO THE SOUTHERN EDGE OF THE OASIS.

Road, ground, and vegetation as above. The road crosses the part of the oasis called

Hours Inter- mediate	From Zliten	
		<p>Foatir, which is prolonged in a thin belt on each side of the road. After about 20 mins. it passes NW. of the two marabuts of Sidi Muftah and Sidi Ibrahim and meets the telephone line to Sdeiat; at about 2 hrs. from Zliten, on a small hill 660 yds. to the E., the road passes the marabut of Sidi Zli, outside the oasis (to within a few hundred yds. of this point, another caravan road also exists, running parallel to and W. of the one already described). At length, at 1½ hrs. from Sidi Zli, the road leaves to the W. the place called Dar es Som, a group of houses with wells, 45 mins. beyond which the oasis comes to an end.</p>
3 0	8 0	<p>FROM THE SOUTHERN EDGE OF THE OASIS TO SIDI ABD ER RAUF.</p> <p>From this point the information is scanty and uncertain. The road ascends through ground which is hilly at first, then slightly undulating, with scanty vegetation of bushes and scrub, and cultivated with barley in the hollows.</p> <p>Sidi Abd er Rauf is a marabut to the N. of the road; near to it is the well of Shomia (100 ft. deep) with abundance of moderate water.</p>
7 0	15 0	<p>SIDI ABD ER RAUF—BIR JIMI.</p> <p>Road as above, in undulating ground, the undulation becoming more marked after the meeting of the Misurata—Beni Ulid road, fit for wheeled traffic (about two-thirds of the way).</p> <p>Bir Jimi is a deep well with abundant and</p>

Hours		
Inter- mediate	From Zliten	
		good (?) water, in the bed of the Wadi Sassu.
4 15	19 15	BIR JIMI-TAWERGA.
		Hilly ground for the first 1½ hrs., while the road is descending the extreme eastern edge of the plateau, then more and more undulating, until it turns into a level desert plain as it approaches Tawerga.
		Vegetation very scanty at first, then more abundant and varied, consisting of small bushes, shrubs, and scrub.
		Road as above. About half-way the road meets the Misurata-Bu Njem road, near which is the well of El Gdiria (45 mins. to SW.).

ROUTE 57

MISURATA—BIR DUFAN—KASR BENI ULID

A road fit for wheeled traffic, recently repaired. After the 9th hr. no more drinking-water is to be had, and after the 17th there is none even for animals, because the various cisterns hold water only for a few months in the year.

Hours		
Inter- mediate	From Misurata	
2 15	2 15	MISURATA-GHERAN (FORK OF THE ROAD TO KHOMS).
		See Route 53.
2 45	5 0	GHERAN-BIR FALAJA.
		The road is fit for wheeled traffic, with a firm bottom. It goes off towards the SW.

Hours	
Inter- mediate	From Misurata

from the Khoms road shortly after the latter enters the oasis of **Gheran**, and reaches in about $\frac{1}{2}$ hr. the southern edge of the oasis, whence it sends off to the S. a branch caravan road to Bir Sherifia and Kasr Beni Ulid.

From this point it traverses, for about 40 mins., level country which becomes more and more stony, and then rises with a rather steep gradient over a hilly ridge called **Ras el Haddad**, which marks the northern edge of the plateau. This ridge is of a calcareous nature, as indicated by the numerous lime-kilns which exist here, and commands a vast view all round.

In the plain a region of scrub (on which camels can browse) is succeeded towards the S. by a uniform belt of low woody shrubs. In the hilly region there is scrub and scattered bushes, which become thicker in the hollows and alternate with tracts cultivated with barley.

Bir Falaja, 330 yds. to the W. and 85 ft. deep, lies in a little bushy hollow, and has plenty of good water. It is very old and, having no superstructure, it is difficult to see.

1 15	6 15	BIR FALAJA—BIR GATTRIANA.
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Road, ground, and vegetation as above.

After about 40 mins. another hilly ridge is crossed, and a wide hollow is entered where lies :

Bir Gattriana, cut out of the rock, 105 ft. deep, without superstructure, and containing water which is neither good nor abundant. This well also is old.

Hours		
Inter- mediate	From Misurata	
1 15	7 30	<p>BIR GATTRIANA—BIR GARDABIA.</p> <p>Road and vegetation as above.</p> <p>Ground as above, with a sandy crust in places.</p> <p>After $\frac{1}{4}$ hr. the road passes the marabut of Sidi Rodwan, 220 yds. to the E.</p> <p>Bir Gardabia, 130 ft. deep, in a hollow, resembles the preceding wells.</p>
3 30	11 0	<p>BIR GARDABIA—KASR BU SHORAN.</p> <p>Road and ground as above. Vegetation as before, with a large quantity of bushes fit for firewood.</p> <p>After 50 mins. the road cuts across the Zliten—Tawerga caravan road, which follows the Wadi Umm Jerfan, faintly marked by a number of little longitudinal furrows, and reaches the Wadi Meruhar (Suyuda), 20 mins. farther on.</p> <p>In these two wadis low acacias and bushes of <i>retem</i> are common.</p> <p>$\frac{3}{4}$ hr. from the Wadi Meruhar the road crosses the Wadis Beruhil (with a dry well and three ruined houses on the W.) and Tehalla (with a good many little fields of cereals).</p> <p>Kasr Bu Shoran is the ruin of a large Roman building with inscriptions, near the road, in a little hollow. It forms part of a line of similar buildings at intervals of about $\frac{3}{4}$ m., extending from E. to W.</p>
5 0	16 0	<p>KASR BU SHORAN TO THE WADI MIMUN (BIR DUFAN).</p> <p>Till the Wadi Durghis is reached the ground is stony. There are numerous little dividing</p>

Hours	
Inter- mediate	From Misurata

walls between cultivated plots of cereals and bushes.

After that there is a bare expanse of minute stones (*seghir*).

Road as before, rather pebbly. After about 4 hrs. it crosses the Wadi **Durghis**, with extensive barley-fields, and 2 hrs. later it reaches a point at the head of the little Wadi **Sheb el Bir**, marked by the branching off of the road to Bir Dufan.

The Wadi **Mimun**, with gently sloping banks, has a bed of coarse sand, covered with numerous acacia and *retem* bushes.

Bir Dufan, about 2 m. to the E. of the road, is hollowed out in a slight sandy undulation on the l. bank of the Wadi Mimun. It is quite old, and is revetted. It is over 220 ft. deep, and has plenty of moderate water; rough pulleys.

2 45 18 45 THE WADI MIMUN—KASR ZENZER.

The bed of the Wadi Mimun continues to have the same characteristics as before. The ground on its l. bank, on the other hand, is undulating, bare, and stony.

Road as before. For the most part it runs along the bed of the Wadi Mimun, leaving on the r. bank, after $\frac{1}{4}$ hr., some ruins which extend for $\frac{3}{4}$ m.; it passes **Fasghia**, a Roman cistern, with water during some months of the year. 1 hr. 50 mins. farther on, it passes, on the N., **Kasr Mimun**, an ancient ruined tower, at a short distance from others of the same kind, and then turns SW.

Kasr Zenzer, on the l. of the Wadi Mimun,

Inter- mediate	Hours From Misurata	
		<p>is a Roman tower, fairly well preserved. Close to it are numerous bushes fit for firewood and a well which, for a few months of the year, holds water fit for animals. It is also drunk by the natives.</p>
3 0	21 45	<p>KASR ZENZER—FASGHIA JAMAMLA.</p> <p>Ground slightly undulating, hard, bare, covered with shiny pebbles, here and there varied by an earthy crust covered with bushes.</p> <p>Road as before, rather stony.</p> <p>After about $1\frac{3}{4}$ hrs. the Wadi Mansur is crossed, the bed of which is hardly visible.</p> <p>Fasghia Jamamla is a cistern, to the E of the road, containing water for many months in the year.</p>
2 45	24 30	<p>FASGHIA JAMAMLA—KASR EL HABS (FASGHIA EL HABS).</p> <p>Ground as before, but more and more stony.</p> <p>At about half-way the Wadi Tmesla is crossed, with a bed which is scarcely visible, and 5 hrs. from Kasr Zenzer the road passes between two ancient monumental towers, in the shape of bell towers, called Msellem, with inscriptions in unknown characters. After this the road traverses the valley of a short tributary of the Wadi Merdun.</p> <p>Kasr el Habs, on the l. bank of the Wadi Merdun and E. of the road, is the ruin of a stoutly built ancient building with various chambers, used till recently as prisons. On the opposite side of the road is a cistern called Fasghia el Habs.</p>

Hours	
Inter- mediate	From Misurata
5 45	30 15

KASR EL HABS—GDURAT.

A bare and stony *hammada*, slightly undulating; enclosed stony wadi beds, with a few bushes.

Road as before. It crosses, after a few mins., the Wadi **Merdun**, with a bed shut in by steep sides, and goes on along its r. bank for about 1 hr., up to the junction of the **Kershenna**, passing on the S., about half-way, a group of ruins called **Ksur**.

W. of the confluence of the Wadi Kershenna is an ancient ruin called Kasr Zemara, from which a caravan road goes straight to Gdurat, joining the road for wheeled traffic about $\frac{3}{4}$ hr. before reaching that place.

The road for wheeled traffic follows the valley of the Wadi Kershenna, for about $3\frac{1}{4}$ hrs., as far as its head.

Gdurat is one of the many villages on the spurs of the Wadi Beni Ulid, with rough houses and a score or two of inhabitants.

It is divided into two parts by a short wadi (tributary of the Wadi Beni Ulid), and the road follows the r. bank of this till it reaches the bottom of the Wadi Beni Ulid.

1 0 31 15 GDURAT—KASR BENI ULID.

Road steeply graded for about $\frac{1}{4}$ hr., then level, in the bed of Wadi Beni Ulid (Merdun): the ground in the bed of the wadi is fertile, and thickly planted with olives, cereals, and gardens. 10 mins. before reaching the **kasr**, near a well, the road joins the Tarhuna road which here ascends with a wide bend.

ROUTE 58

MISURATA—GHEDDAHIA—BU NJEM

Road fit for wheeled traffic, about which there are at present no details, because it has only lately been improved and traversed by automobiles.

Hours		
Inter- mediate	From Misurata	
13 0	13 0	MISURATA—BIR MSRAG. Scrub and bushes. The road goes off in a SE. dir. from the Misurata-Tawerga road, at a point, not yet definitely chosen, a few hrs. before reaching Tawerga. It passes, after about 4 hrs., Bir el Gdiria , ascending into hilly ground, which constitutes the eastern boundary of the hamlet close to the ruins called Ghuat. 1 hr. before reaching Msrag it rejoins the caravan road coming from Bir Jimi (on the Zliten-Tawerga road, see p. 435). Bir Msrag is in the bed of the wadi of the same name.
7 30	20 30	BIR MSRAG—BIR NEMUA. Undulating ground. Short stretches of thick bush. About half-way the road crosses the Wadi Sofejin , in which, a few m. to the W., is the well of Sheikh Abd el Kader. From Bir Nemua , on the Wadi Gargur, a caravan road diverges SE. to Hisha.
11 30	32 0	BIR NEMUA—GHEDDAHIA. Ground level, furrowed by the wadis

Hours		
Inter- mediate	From Misurata	
		which debouch in the S. part of the <i>sebkha</i> of Tawerga.
		Gheddahia is a well at the confluence of the Wadi Tmesla and the Wadi Zemzem.
		Branch roads : road fit for wheeled traffic E. to Themed Hassan ; caravan roads N. to Hisha and Tawerga and W. to Nefed.
16 0	48 0	GHEDDAHIA TO THE THEMED HASSAN BU NJEM CARRIAGE ROAD.
		Ground level. Some wadis are crossed which debouch into the Syrtis.
		At about three-fifths of the way the road passes on the E. a road turning off to Zidiniáz, and about $1\frac{1}{2}$ hrs. before the end of the stage it crosses the Wadi Bei el Kebir .
		The junction with the Themed Hassan—Bu Njem road takes place on the Wadi Bei el Khaib a short distance beyond the well of Sabiaya.
8 0	56 0	FROM THE ABOVE JUNCTION TO BU NJEM.
		See Route 64.

ROUTE 59

MISURATA—TAWERGA—HISHA

Fit for wheeled traffic as far as Tawerga, then a good caravan road following the edge of the *sebkha*.

Hours		
Inter- mediate	From Misurata	
1 45	1 45	MISURATA—BIR UMM EL BOGAR.
		A level oasis interrupted here and there by small rocky hills or by dunes.

Hours	
Inter- mediate	From Misurata

Road fit for wheeled traffic with a solid bottom, rather stony, recently improved. It leaves by the Tawerga gate; after about 25 mins. it passes on the W. the hamlet of **Sherat**, and 10 mins. beyond traverses the village of **Mkasba el Bari** (Gushi) with about 350 inhabitants; abundant, slightly saline water is found here.

20 mins. later it reaches another little village, **Gushi Shutani**, and 25 mins. after enters a region inhabited by the people of **Karzars**, a village (with a Royal Carabineers' station) about 10 mins. to the W. Immediately after this there is a short sandy region, where the oasis ends on the eastern side of the road, while parallel to the other side of the road it still continues in a thin strip.

Bir Umm el Bogar, to the W. of the road, marks the highest point of the extreme southern limit of the oasis. It is a well about 10 ft. in depth with abundant and slightly saline water.

3 0

4 45

BIR UMM EL BOGAR—FONDUK JEMEL.

As far as **Bir Yemmel** the ground is undulating and rocky, with a few thin bushes. After this there is a monotonous expanse of *sebkha*, traversable in every direction, thickly covered with scrub and coarse grasses.

Road as above. After about 30 mins. it passes on the W. **Bir Yemmel**, 3 ft. deep, with indifferent water, and after another $1\frac{1}{4}$ hrs. reaches **Bir Shellaba**, about the same depth and the same quality of water.

Hours Inter- mediate	From Misurata	
		<p>Fonduk Jemel is a caravanserai, 660 yds. to the W. of the road. To the E. of it is the well Kum el Belal, with scanty and indifferent water.</p>
5 45	10 30	<p>FONDUK JEMEL—TAWERGA.</p> <p>For 4 hrs. a <i>sebkha</i> plain, solid and firm, traversable in every direction, then, after a little ledge has been crossed, the ground becomes steppe-like.</p> <p>Vegetation and road as before.</p> <p>Tawerga. See p. 160.</p>
13 0	23 30	<p>TAWERGA—HISHA.</p> <p>This is the marginal zone of the level <i>sebkha</i> plain. There is a sandy stretch from the second caravan road mentioned below as far as the bed of the Sofejin (Defa Sofejin); and near Hisha there is a rocky tract, which rises towards the W. into a circle of heights called El Guar, which forms a semicircle round the marshy <i>sebkha</i> of Hisha.</p> <p>Vegetation as above.</p> <p>Caravan road with a solid bottom and some sandy tracts, not very well defined. It may be used by automobiles.</p> <p>From Tawerga the road makes a wide bend to the E., avoiding the eastern part of the oasis, then it turns again to the S., passing shortly after a road going off to Beni Ulid, near which, about a couple of m. from the road, is the well of Menzi 'Mergheb'. After another 10 mins. it passes the marabut of Hmesha to the E.</p>

Hours	
Inter- mediate	From Misurata

Then it meets, one after the other (45 mins. and 1 hr. on respectively), 2 caravan roads to Beni Ulid, and crosses, $2\frac{1}{4}$ hrs. from the second, the dry bed of the Wadi **Sofejin**. Then it crosses in succession other wadi beds, barely discernible, which, a mile or two farther, debouch into the *sebkha*: the **Bu Heda**, $2\frac{1}{4}$ hrs. from the Wadi Sofejin, the Wadi **Gargur**, $1\frac{1}{2}$ hrs. on, Wadi el **Habish**, $1\frac{1}{2}$ hrs. from the Wadi Gargur, and the Wadi **Gorja**, $2\frac{1}{4}$ hrs. on. In the bed of the latter, near the road, is the **Bir Saksakia**, and 2 m. to the W. an isolated tree called Themed el Gorja.

The small oasis of **Hisha**, in the middle of the *sebkha*, is inhabited by some 550 persons, who live there only for a few months in the year, and gather the dates.

ROUTE 60

MISURATA—BIR BU RETMA—THEMED HASSAN— SIRTE

Caravan road, passable for vehicles, with some difficulty during the rainy season in the tracts of *sebkha*. It follows the line of the coast, never diverging farther from it than a mile or two. The wells, which are without superstructure, are liable to be sanded up.

Hours	
Inter- mediate	From Misurata

2 0

2 0

MISURATA—KASR AHMED.

See Route 53.

Hours	
Inter- mediate	From Misurata
3 45	5 45

KASR AHMED—JERID.

Along the coast there are lines of firm dunes, which prevent the sea being seen; towards the interior there is a plain of hard and uniform *sebkha*, traversable in every direction, interrupted by a few small dunes.

Scrub, small bushes, a few tracts of soil, cultivated with barley.

This is a road fit for wheeled traffic, with a firm bottom; occasional sandy tracts: it presents some difficulty for motors in the rainy season. The road is not very clearly defined, but is accompanied nearly all the way by the telegraph line. It leaves them as soon as the first houses of Kasr Ahmed are left behind, and, after having passed between the oasis of Kasr Ahmed and the *sebkha*, it rejoins the coast after about 2 m. and follows it at a short distance.

At **Jerid**, near the telegraph line, between the sea and the road, there is a well, with good and abundant water, 5 ft. deep. This well, like all the rest, is excavated in a hollow among the dunes and its walls are not revetted.

3 0	8 45	JERID—KASR EL HARAR.
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Ground and vegetation as above.

Caravan road, not very well defined. Available for every kind of vehicle. Its characteristics are similar to those of the preceding stretch.

At **Kasr el Harar**, near the cape of the same name, on a hill, is a rough building of one

Hours Inter- mediate	From Misurata	
		storey, ruined by the fire of our artillery, formerly used by the Turks as a telegraph station. 160 yds. from the telegraph line, towards the sea, there is a well, 8 ft. deep, with good and abundant water. The line of the dunes is broken shortly before reaching Kasr el Harar. It begins again immediately after, passing to the W. of the road, while it sends out towards Cape Harar a rather high spur.
2 30	11 15	<p>KASR EL HARAR—BIR LAHMAR (EL AHMAR).</p> <p>Road and vegetation as above.</p> <p>Dunes rather high towards the W., very low and broken towards the sea.</p> <p>Beyond the line of the dunes is the monotonous plain of the <i>sebkha</i>.</p> <p>Bir Lahmar (El Ahmar), about 550 yds. to the W. of the telegraph line, is a well, 6½ ft. deep, with moderate water.</p>
3 30	14 15	<p>BIR LAHMAR (EL AHMAR)—SMEIDA.</p> <p>Road, ground, and vegetation as above. After 1¼ hrs., ¾ m. to the W., there are among the dunes the 2 wells of Bu Kidia with relatively plentiful good water.</p> <p>At Smeida, near the telegraph lines, on the seaward side, is a well with moderate water.</p>
6 15	21 30	<p>SMEIDA—BIR BU RETMA (I).</p> <p>Road, ground, and vegetation as above. After 1¼ hrs., to the W. of the road, is the well of Melfa with fairly good water.</p> <p>About ¾ hr. farther on the dunes are broken, and through the gap (El Bab) the little</p>

Inter- mediate	Hours From Misurata	
		<p>Udei Ugheda discharges itself. Owing to its bed being smooth and dry it is difficult to recognize.</p> <p>From this point a branch caravan road goes off S. to Bir Tamesh and Hisha. From this point the line of the dunes passes to the E. of the road, becoming considerably lower. About $1\frac{1}{4}$ hrs. from the Udei Ugheda to the W. is the well of Menga with fairly good water, and after another $1\frac{1}{4}$ hrs. the similar well of Toyara.</p> <p>Bir Bu Retma (I) is a well like the former with fairly good water. Near the well are the ruins of a wooden sentry-box, belonging to the Turkish telegraphs. (This Bir Bu Retma is numbered (I) to distinguish it from another similarly named well farther on.)</p>
4 30	26 0	<p>BIR BU RETMA (I)—SORRA BAHARIA.</p> <p>Road and vegetation as above.</p> <p>After $3\frac{3}{4}$ hrs. there is the well of Kser Gheber, with very little water, near some ruins.</p> <p>Some isolated dunes on both sides of the road, and after $1\frac{1}{4}$ hrs. a zone of dunes which is traversed in about 30 mins. To the W. of the road, slight undulations and small hills, which make the <i>sebkha</i> recede for some m. from the coast.</p> <p>At Sorra Baharia, a well, with little water, like the preceding ones.</p>
5 0	31 0	<p>SORRA BAHARIA—BUILA EL MADERI.</p> <p>Road and vegetation as above.</p> <p>Ground similar to the preceding. After $1\frac{1}{2}$ hrs. there is a zone of rocky outcrops,</p>

Hours	
Inter- mediate	From Misurata

which appear to be good stone for building purposes.

At **Buia el Maderi** there is a small enclosure, where in ancient times an Arab of that name was murdered; it is now a place of prayer.

In the vicinity there is a well with scanty water.

7 15 38 15 BUIA EL MADERI—THEMED HASSAN.

A zone of small rocky hills is crossed, of which the highest is the one named **Ras el Hamed** or Sharaf el Hamra (that is, 'Red Head'), on account of its colour, which is visible from some distance off (3½ hrs. from Buia el Maderi). Shortly before this the marabut of **Sidi el Fula** is left, to the N., and, about 3 hrs. after, that of **Khalif Ali**, to the S. To the SW., beyond the above-mentioned rocky zone, is a level plain of *sebkha*.

Vegetation as above.

At **Themed Hassan**, 1¼ m. from the sea, there are 6 wells, of which only 2 have abundant water, drinkable, although slightly saline. They are 20–23 ft. deep. There is also a marabut and a barrack for gendarmes. Branch roads for wheeled traffic: W. to Geddahia; SW. to Bu Njem.

2 15 40 30 THEMED HASSAN—ATLET BU JERADA.

Road and vegetation as above. *Sebkha* and sandy dunes along the sea.

After Themed Hassan the bed of the Wadi **Bei** is crossed, and the road then avoids, by a big bend, the salt-pits of the same name (about 1 hr. to the E. of Themed

Hours		
Inter- mediate	From Misurata	
		Hassan). At about half-way there is <i>sebkha</i> and the mouth of the Wadi Themed , and at 1½ hrs. march among the dunes, the well of Bir Matran with no superstructure.
		At Atlet Bu Jerada there is a well, over 12 ft. deep, with slightly saline water, abundant, drunk by the natives. Beyond there is a barrack for a guard of gendarmes and a marabut.
3 30	44 0	ATLET BU JERADA—BIR BU RETMA (II). A few shrubs fit for firing, and scanty scrub for camel browsing. The road runs along the coast, over <i>sebkha</i> , where the Wadis Krab , near Atlet Bu Jerada, and Gbeba , 30 mins. before Bir Bu Retma (II), debouch.
		At Bir Bu Retma (II) there are 2 wells, depth 13 ft., with abundant and slightly saline water, drunk by the natives.
8 15	52 15	BIR BU RETMA (II)—GHELIL. Level ground with tracts of <i>sebkha</i> , particularly during the last hr. Sandy dunes towards the sea. Pasturage for camels (scrub and bushes), not very abundant, but at all seasons. Ghelil is a well with good water, comparatively abundant, 13 ft. deep. Road as above.
1 45	54 0	GHELIL—SIRTE. Road as above. After ½ hr. the marabut of Bu Ahman to the N. and near it a well of good water,

Hours	
Inter- mediate	From Misurata

26 ft. deep. After another $\frac{1}{2}$ hr. **Zafran** is reached, where there are some palm-trees, a few huts, and 3 wells of good and abundant water, at a depth of 16 ft.

For **Sirte** see p. 148.

ROUTE 61

KASR BENI ULID—BIR SEGHENNA—BU NJEM

Caravan road; would be for the greater part practicable for motor-cars at the expense of considerable improvements. It is the shortest line of communication between Kasr Beni Ulid and Bu Njem, and the best supplied with pasturage and water.

Hours	
Inter- mediate	From Beni Ulid

5 0

5 0

KASR BENI ULID—KASR MIMUN.

For **Kasr Beni Ulid** see p. 158.

Slightly undulating ground, hard, compact, strewn with stones, and with some sandy tracts.

This is a caravan road with a firm bottom; some stones. After about 2 hrs. the bed of the Wadi **Gobbin** is crossed (over 100 yds. wide), about $1\frac{1}{4}$ m. to the E. of its head, where the ruins of **Kasr Shemma** are situated.

In the Wadi **Mimun**, which is about 220 yds. in width, there are 2 cisterns, and 2 groups of Roman ruins of which the eastern one is called **Kasr Mimun**.

Hours		
Inter- mediate	From Beni Ulid	
7 30	12 30	<p>KASR MIMUN—BIR SEGHENNA.</p> <p>Slightly undulating ground, crossed by wadis with low banks and gentle slopes.</p> <p>Occasional scrub and some bushes in the beds of the wadis.</p> <p>Road as above. It turns to the S., while the caravan road to Nefed and Bu Njem keeps to the bed of the Wadi Mimun.</p> <p>After 1 hr. it passes the Wadi Bu Serat in the reach called Shatt el Hal. After another $3\frac{1}{4}$ hrs. it crosses the Wadi Tmella and after $1\frac{1}{2}$ hrs. the Wadi Sofejin, whose bed, about 1,100 yds. wide, is somewhat stony and covered with thin bushes and small shrubs. Then the road enters the valley of the tributary Wadi Seghenna, which it follows.</p> <p>At Bir Seghenna (also called El Aweja), in the valley of the wadi of the same name, there are 2 wells of moderate and scanty water. Road goes off W. to Mizda.</p> <p>See Route 51.</p> <p>The Wadi Seghenna has plenty of bushes and scrub which the camels eat readily.</p>
6 30	19 0	<p>BIR SEGHENNA (EL AWEJA)—BIR SHADIA.</p> <p>With the exception of the particulars noted, the ground and vegetation are mostly as before.</p> <p>Road as above, somewhat stony. After $\frac{1}{2}$ hr. the valley of the Seghenna narrows and runs between steep sides, and its bottom becomes rather stony and uneven, and continues thus for $1\frac{1}{2}$ hrs., as far as Ain Tmedda, a very small spring of good water which is collected</p>

Hours	
Inter- mediate	From Beni Ulid

in a hole. In this stretch of the Wadi Seghenna there are also apparently 2 other wells of good water : **Bir Bu Sheba** and **Bir Bu Talah**.

The road then emerges from the valley of the Seghenna ; it crosses a sandy and bushy tract, called **Shetwan Khela**, and after about $2\frac{1}{2}$ hrs. reaches the head of the Wadi **Nefed**, and follows its course, reaching, after about 30 mins., the dry well of **Bir el Kseba**, 33 ft. deep.

Bir Shadia, on the NE. slope of the Wadi Nefed, has a depth of 130 ft., with muddy and not very plentiful water.

In the bed of the Wadi Nefed, which is full of bushes and scrub for fodder, are found numerous encampments of nomads who take camels and flocks to pasture there.

Branch roads : N. to the valley of the Wadi Nefed, SSW. to the Kasr Beni Ulid—Bir Talha—Bu Njem road for wheeled traffic.

30 15 BIR SHADIA TO THE WADI ZEMZEM.

Stony and gently undulating *hammada*. Occasional bushes in the wadis.

Caravan road with firm bottom, practicable for wheeled traffic. It leaves the valley of the Nefed and in $2\frac{3}{4}$ hrs. reaches the plateau, where after another 2 hrs. it comes to a small belt, called **Shen**, thickly covered with bushes suitable for camel fodder. At $4\frac{1}{4}$ hrs. from this it enters the valley of the Wadi **Domran**, which it follows for about $2\frac{1}{2}$ hrs. ; then it again rises on to the plateau, and traverses it for about 4 hrs. $\frac{1}{2}$ hr. before

Hours		
Inter- mediate	From Beni Ulid	
		reaching the Wadi Zemzem it leaves Bir Rakha , 1,100 yds. to the E., with moderate water. There are 3 trees round it, and it has a depth of 230 ft.
		In the Wadi Zemzem , to the W. of the road, there is a large Roman cistern with good water for some months in the year, and a few bushes.
8 30	38 45	THE WADI ZEMZEM-BIR UMM EL GHORBAL. Stony <i>hammada</i> . At about half-way a zone of hills is crossed, sandy in places; this is followed by a stony plain called Seghir Umm el Ghorbal. Road as above. It follows the valley of the wadi for about 45 mins., leaving to the N., on the l. bank, the well of Twil el Asel , 130 ft. deep, with abundant, moderate water; from here it again rises on to the plateau. Bir Umm el Ghorbal , in the valley of the wadi of the same name, is 130 ft. deep, with abundant fairly good water.
2 0	40 45	BIR UMM EL GHORBAL-BIR BAGLA. Road, ground, and vegetation as above. After 45 mins. the bed of the Wadi Bei el Kebir is crossed; there are several bushy stretches in it. Bagla is a well, with good and abundant water, in the wadi of the same name, of which the valley is narrow, and thick with bushes fit for fodder.
6 30	.47 15	BIR BAGLA-BU NJEM. For the first few hrs. the district is sandy,

Hours	
Inter- mediate	From Beni Ulid

with a few bushes, then at the end of the journey there is an arid plain of sand mixed with sharp stones.

For **Bu Njem** see p. 160.

ROUTE 62

KASR BENI ULID—BIR TALHA—BU NJEM

Passable for wheeled traffic, improved in places; slight difficulties in some stretches.

Hours	
Inter- mediate	From Beni Ulid

4 30	4 30	KASR BENI ULID TO THE HEAD OF THE WADI MIMUN.
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Hard, firm, slightly undulating, somewhat stony ground.

A made road for the first 3 m., fit for vehicles, then a road with a firm bottom, passable for motor-cars.

At the head of the Wadi **Mimun**, to the E. of the road, is a Roman ruin called Kasr er Rehana.

7 30	12 0	FROM THE HEAD OF THE W. MIMUN TO BIR TALHA.
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Road and ground as above. After about 3½ hrs. the road crosses the Wadi **Sofejin**, of which the bed is about 1,100 yds. in width (see Route 51), and comes out into the valley of the Wadi **Talha**.

Bir Talha (see p. 416) is 40 ft. deep.

Hours		
Inter- mediate	From Beni Ulid	
19 30	31 30	<p>BIR TALHA—FASGHIA (W. NEFED).</p> <p>Road and ground as above. The road follows for some m. the Wadi Talha, leaving to the W., after about an hr., Bir Magdi, 33 ft. deep, with good water, and after 3 hrs. passing a caravan road going off to Ghirza. Then the plateau is traversed for about 4 hrs., and after this the road enters the valley of the Wadi Khnafis, which it follows, leaving to the S., after about 8 hrs., Bir Anewa, on the opposite bank.</p> <p>At the end of the stage there is another stretch over the plateau.</p> <p>Fasghia is a large Roman cistern on the northern bank of the Wadi Nefed; a little to the E. of it passes the caravan road Kasr Beni Ulid—Bir Seghenna—Bu Njem, which follows for a certain distance the wadi itself (see Route 61).</p>
9 0	40 30	<p>FASGHIA TO THE WADI BEI EL KEBIR.</p> <p>Undulating ground, particularly towards the middle of the stage. Towards the end there is a stony plain.</p> <p>Road as above.</p> <p>The Wadi Bei el Kebir has a shallow bed, covered with bushes and shrubs.</p>
9 0	49 30	<p>THE WADI BEI EL KEBIR—BU NJEM.</p> <p>Undulating ground for the first few hrs., then a level plain of mixed sand and sharp stones, which make the road difficult for motors, and cause much damage to the tyres.</p> <p>Road as above.</p>

ROUTE 63

SIRTE—OM EL GANDIL—MARSA EL AWEJA

Caravan road, passable for wheeled traffic, except for a few days in the rainy season on account of the numerous tracts of *sebkha* which it crosses. It keeps to the coast region, in which there are plenty of wells of good water and pasture (according to the season). Besides this there exists a track for motor-cars to use during the rainy season. It is longer, because in many places it leaves the road described and skirts the southern borders of the *sebkhas*.

Hours	
Inter- mediate	From Sirte
3 30	3 30

SIRTE—BU ZEIA.

Sirte, capital of the *kaza*, with a population of about 17,000, almost all nomads; residency; station of Royal Carabineers; wireless service and post.

There are a few gardens among the houses and a very small oasis encircles the settlement on the W. side. There are numerous wells of from 15 to 50 ft. deep with good and abundant water. See also p. 148.

Branch roads: SW. to Bir Fatmia and S. to Themed el Morbah.

Ground undulating (dunes) towards the sea, and level towards the S.

Vegetation of scrub and brambles.

The road is a caravan road, fit for wheeled traffic. It emerges from Sirte, S. of the settlement, and then turns to the E., keeping parallel to the coast. After about 2 hrs. it leaves on the N. a group of gardens with

Hours Inter- mediate	From Sirte	
		<p>wells of scanty water, called Umm el Jiwabi, and $\frac{1}{2}$ hr. farther on is another similar group called Swani Bu Shenaf.</p> <p>At Bu Zeia are 4 wells with a good and ample supply of water; fields of cereals, and kitchen gardens; a few palms and figs.</p> <p>The settlement, very close to the sea, is surrounded by shifting sand-hills, and frequented by caravans and flocks.</p>
3 45	7 15	<p>BU ZEIA—SHUESHA.</p> <p>Road, ground, and vegetation as in the preceding stretch.</p> <p>After about $1\frac{1}{4}$ hrs. the road passes, to the S., the tomb of the marabut Sidi Muftah, marked by rags hung on stakes on the summit of a bushy hill, and after about $\frac{3}{4}$ hr. it passes to the N. the well of Rumia, very near the sea, and some ruins to the S.</p> <p>Shuesha is a group of wells, 33 ft. deep, with a plentiful supply of good water.</p>
4 30	11 45	<p>SHUESHA TO THE WADI ANEWA.</p> <p>Road, ground, and vegetation as before.</p> <p>1 hr. from Shuesha the marabut of Sidi Dahansaga is passed N. of the road. This is similar to the marabut of Muftah. About 1 hr. later the road passes the well of Amed Garrush, the position of which is marked by a ruin which lies at a short distance from it.</p> <p>The bed of the Wadi Anewa is a swampy depression, in which the channel of the torrent, about 65 yds. wide, runs shut in for about 1 m. (?).</p> <p>Near the mouth is a salt-marsh, and about</p>

Inter- mediate	Hours	From Sirte	
			3 m. upstream are 2 wells of fresh water called Teleghim .
3 15	15 0		<p>THE WADI ANEWA—SULTAN.</p> <p>Road, ground, and vegetation as in the former stretch (sand-hills towards the sea, level and firm towards the interior).</p> <p>$\frac{3}{4}$ hr. from the Wadi Anewa are the wells of El Ommela (the amount of water has not been ascertained) and $\frac{3}{4}$ hr. farther on is the marabut of Sidi Buakna, with a masonry cupola, on a height, visible at some distance.</p> <p>Finally, $1\frac{1}{2}$ hrs. from Sultan, are the ruins of Mdeina, half buried and appearing above the surface of a stretch of ground which the road traverses for about 550 yds.</p> <p>Sultan is a small oasis near the sea, surrounded and hidden by sandy dunes, with a number of wells of abundant water, fruit-trees and fields cultivated with cereals and kitchen gardens. There are 3 houses of masonry, one of which, destroyed by the bombardment, was a Turkish telegraph office. The district is inhabited for a part of the year by about 150 persons who emigrate after the harvest.</p>
4 30	19 30		<p>SULTAN—NEIM.</p> <p>When Sultan has been left behind the road enters a vast <i>sebkha</i>, N. of which, and near the sea, about 6 m. from Sultan, is the group of wells of Shafat (water not ascertained) with a few gardens.</p> <p>In this <i>sebkha</i> the Wadi Mra disembogues ; then this wadi becomes narrower near the</p>

Hours		
Inter- mediate	From Sirte	
		slight elevations of the region called Bu Gutba (3½ hrs. from Sultan), after which the road traverses the swampy depression of the Wadi Arawa .
		E. of this is the well of Neim with plenty of good water.
4 45	24 15	NEIM—EL HAMRA (BIR EL AHMAR).
		The <i>sebkha</i> continues towards the E., narrowing somewhat ; for a few m. the road goes N. of it and after about 3 hrs. reaches the wells of Assel , with fresh and abundant water, a few ruined houses, a few palms, and tracts of cultivated ground. On the coast abreast of this place is a small <i>marsa</i> (landing-place).
		Vegetation of scrub and shrubs, growing rather thickly in some places.
		The well of El Hamra (Bir el Ahmar), near the source of the wadi of the same name, is in a sandy hollow ; it is 13 ft. deep and has a very abundant supply of fresh water.
3 0	27 15	EL HAMRA—AMRA FOM.
		When the <i>sebkha</i> has been left behind the ground again resembles the zone W. of Sultan (dunes towards the sea and level with scrub to the S.).
		After Bu Seda it becomes rather undulating, with scattered shrubs of some size and also interrupted by sandy patches which interfere with the progress of vehicles.
		The road continues parallel to and close to the coast.
		Automobiles, however, proceeding to Zawia Nufilia, come back on the made road for a

Hours Inter- mediate	From Sirte	
		<p>few m. and then skirt the southern edge of the <i>sebkha</i>.</p> <p>At $2\frac{1}{4}$ hrs. from El Hamra are the three wells of Bu Seda, hidden among the sand-hills, about $6\frac{1}{2}$ ft. deep, with plenty of good water.</p> <p>Amra Fom is a sandy region, close to the sea ; there are 2 wells there with good and abundant water.</p>
6 45	34 0	<p>AMRA FOM—MARSA EL AWEJA.</p> <p>The road is still parallel to the coast and close to it. The <i>sebkha</i> begins again and across it disembugue the numerous wadis coming from the zone of Nufilia (Gandil Shidgani, Aggar, &c.).</p> <p>The wells of the localities of Nizam and Gandil, which are respectively $2\frac{3}{4}$ hrs. and $3\frac{3}{4}$ hrs. from Amra Fom, contain water only fit for cattle. Near Gandil are also the remains of a Turkish telegraph office.</p> <p>From this point a road for vehicles goes off E. to Zawia Nufilia (see Route 63 A).</p> <p>Marsa el Aweja, near the mouth of the Wadi Aggar, is a wide creek, shut in on the E. and W. by sandy dunes ; a good landing-place for small craft which load steamers with the barley exported from this district.</p> <p>Near the shore are some wells with water fit for cattle only.</p> <p>There is drinking water in 5 other wells, a little farther inland.</p> <p>There is a branch road to the S., suitable for wheeled traffic, along the Wadi el Ajir to Zawia Nufilia, about 11 m. off. Garrison. Telegraph and postal service.</p>

ROUTE 63 A

OM EL GANDIL—ZAWIA NUFILIA

Fit for wheeled traffic.

Hours	
Inter- mediate	From Om el Gandil
8 30	8 30

OM EL GANDIL—ZAWIA NUFILIA.

Ground, rising to S. of the road and steeply undulating, rocky and stony, with earthy tracts cultivated with barley and scanty low shrubs.

The road begins by following the Turkish telegraph line (which is followed all the way by the caravan road which goes straight to Zawia Nufilia) and skirts the southern edge of the *sebkha* as far as the Wadi Aggar, which has a stony bed.

Nufilia, 11 m. SSW. of Marsa el Aweja and at the junction of the Wadi Telluit with the Wadi Aggar, is a wide, low building which dominates the valley from a small height.

550 yds. to the SE., in the Wadi Telluit, is a well, 165 ft. deep, with fresh water, abundant except in the summer months. There is another well of saline water on the Wadi Aggar, 550 yds. NNE.

Garrison. Telegraph and postal service.

The surrounding district is for the most part poor and deserted, but in the bottom of the hollows, for a radius of 3 m., barley is intensively cultivated.

ROUTE 64

SIRTE—THEMED HASSAN—BU NJEM

A good caravan road, used by carriages and motors. The wells on the roads have water only for a few camels. It is therefore necessary to water them well before starting.

Hours		
Inter- mediate	From Sirte	
15 45	15 45	SIRTE—THEMED HASSAN. See Route 60.
8 30	24 15	THEMED HASSAN—ZIDINIAZ (ZIDEN). Ground level, mixed with sand; firm for the first $2\frac{1}{2}$ hrs., then rather undulating and stony; scanty scrub and low bushes. A good caravan road going in a SW. direction, fit for carriages. It runs parallel to and W. of the bed of the Wadi Bei, passing about $\frac{3}{4}$ m. to the E., after $2\frac{1}{2}$ hrs., the well of Jerbwa . $4\frac{1}{2}$ hrs. from this it enters the bed of the wadi itself, near the confluence of the Wadi el Morra , in which is the well of the same name, with good water, little known to the natives. At Zidini (or Ziden) are two wells, 50 ft. deep, with good but scanty water, especially scanty in the one to the E.; a marabut, and two tall trees. A caravan road goes off E. to Sirte.
6 30	30 45	ZIDINIAZ—SABIAYA. Ground undulating, rocky and rather stony. Shrubs and bushes; browsing for camels in the Wadi Bei. Road as above. It traverses for about

Hours		
Inter- mediate	From Sirte	
		1¼ m. the sandy bed of the Wadi Bei as far as Bir Takil , which has good water (?). Then it emerges and keeps on, parallel to and about 1 m. E. of the wadi.
		Sabiaya is a well of good water, 230 ft. deep, in the bed of the Wadi Bei el Khaib , about 1 hr. upstream from the junction of the latter with the Wadi Bei el Kebir.
8 30	39 15	SABIAYA—BU NJEM.
		Road, ground, and vegetation as before.
		The road traverses the valley and in places the bed of the Wadi Bei el Khaib, and after $\frac{3}{4}$ hr. it leaves to the N. a branch road, fit for vehicles, leading to Misurata.

ROUTE 65

BU NJEM—FATMIA—SOKNA

A caravan road, used by carts and motors. It crosses hilly and broken country, where water is only found at long intervals.

Hours		
Inter- mediate	From Bu Njem	
7 15	7 15	BU NJEM—FATMIA.
		For Bu Njem see p. 160.
		Level ground, sandy for the first 1½ hrs., and then stony. Scanty scrub.
		A good caravan road, fit for motors. It follows the Wadi Bei el Khaib, which is closed in by little sandy heights.

Inter- mediate	Hours		From Bu Njem	
				<p>At Bir Fatmia is a well, about 80 ft. deep with troughs, and plenty of good water. A few shrubs and browsing for camels. About 1 hr. to the N. there is a mine of rock-salt.</p> <p>A caravan road goes off E. to Themed el Morbah.</p>
10 0	17 15			<p>BIR FATMIA—BU ETLA.</p> <p>Ground level for the first few m. and then becoming more undulating, hilly and rocky. Shrubs and bushes of various kinds afford browsing for camels. The road is a caravan road with a firm bottom, rather stony, used by vehicles.</p> <p>Direction S. After $\frac{3}{4}$ hr. it crosses a small chain of dunes, and at half-way traverses the ridge Khormet el Mehalla and, near Bu Etlä, Khormet et Trik.</p> <p>At Bu Etlä in a hollow are eight wells, 20 ft. deep, with saline water (very abundant in the middle one), and drinking troughs.</p> <p>A caravan road goes off E. to Bir Gherias.</p>
17 0	34 15			<p>BU ETLA—BIR ET TAR.</p> <p>The road traverses mountainous country, and after $1\frac{1}{4}$ hrs. it passes, on the W., the place called El Kheima, and $\frac{3}{4}$ hr. from there crosses the Khormet Tusust, after which the mountainous zones recede and continue on both sides of the road and parallel to it; a wide plain is traversed.</p> <p>$2\frac{1}{2}$ hrs. from Khormet Tusust the road crosses the Wadi Werid, a tributary of the Wadi Bei el Khaib, and, after another $8\frac{1}{2}$ hrs.,</p>

Inter- mediate	Hours From Bu Njem	
		<p>crosses the other tributary, the Wadi el Hadd.</p> <p>When this has been crossed the ground becomes mountainous again. These are the mountains of the Tar, not very high.</p> <p>Plenty of pasture is found in the plain. Scanty shrubs in the hilly zone.</p> <p>At Bir et Tar, in the mountains of the same name, are two wells of scanty water, slightly saline.</p>
7 45	42 0	<p>BIR ET TAR-SOKNA.</p> <p>Hilly and rocky ground as far as Hamam ; then level and sandy. Thin bush and scanty pasture.</p> <p>Road as before.</p> <p>After $\frac{3}{4}$ hr. it crosses a little Wadi where there is a well, included under the name Bir et Tar, with plenty of good water at a little depth, and drinking troughs. During the rest of the stage wells are fairly numerous.</p> <p>At $2\frac{3}{4}$ hrs. from Bir et Tar is an oasis, covered with sand, with a few palms near a spring called Hamam, with a fair supply of good water.</p> <p>Sokna, see p. 183.</p> <p>Caravan roads go off: E. to Hon and Wadan; SE. to Foghaa; SW. to Brak; WNW. to Bir Umm el Keil. A road fit for wheeled traffic goes SSW. to Kneir pass, and thence to Brak or Sebkh.</p>

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I. ROUTES IN TRIPOLI: ROUTES TO FEZZAN AND THE SOUTH

ROUTE 66

MIZDA—MURZUK

miles

- 0 **Mizda** (alt. 1,624 ft.), situated in the centre of the bed of the Wadi Sofejin: considerable cultivation with trees. See p. 151.
The road proceeds directly S. to the **Wadi Jerajia**, up a branch of which it ascends a difficult stony path, to a plateau 100–150 ft. above Mizda. The road then turns SSE.
- 23 Cross **Wadi Erlis**, tributary of the Wadi Sofejin with steep banks, containing good water during the rainy season and a well (Bir Erlis, 788 ft.) with ruins of a Roman monument close by. Cross other tributaries, including
- 29 **Wadi Bu el Ajraf**. Change direction to ESE. over a small pass to
- 35 **Wadi Tatha**, with some grazing. After crossing some very broken country and another wadi the direction again changes to S. by E.
- 53 **Keshem el Kabesh**, in the **Wadi Tagiye**, a tributary of the Wadi Zemzem. In September the wadi contains some water and abundant grazing.
Branch route to **Sebkha**, see Route 68.
The road now turns SSW. and passes through pasture.
- 62 **Kasr mat el Ajerin**.
- 69 **Si Rashedan**. Route winds in a general direction S. by W.

miles

- 76 Cross **Wadi Zemzem** flowing E. ; well. Route then ascends across rough, stony ground.
- 87 **Bir Tabratie** (Tabonie), well, alt. 1,050 ft., at the NE. edge of the mountainous desert of **Hammada el Homra**, leaving the village of **Gharia el Gharbia**, 7 miles NE. The ascent continues through an oasis past **Bir Tennel**.
- 95 **El Ushekh** village (well). The route continues over the **Hammada el Homra**, past a few patches of herbage, with some trees (*Acacia arabica*).
- 130 **Wadi Garra Salem**. Route passes more patches of herbage.
- 160 **Reyem el Era** village, alt. 738 ft., the highest point of the Hammada. The road continues across the Hammada, passing an oasis on the right.
- 182 Cross **Wadi el Alga**.
- 189 **Daera** village.
- 211 Pass **Jebel el Hammat** on the left.
- 215 Cross **Wadi Meretim**.
- 224 **El Bab** pass, whence an alternative route goes SSE. which rejoins the main track at **Wadi Beni Awejir**, mile 440. The road then winds to the W.
- 232 Cross **Wadi Haeran** (wells).
- 241 **El Hassi** village, alt. 327 ft., on the SE. edge of the Hammada. Springs and well in a sandy depression with little or no vegetation near. The road now traverses a sandy desert.
- 255 **El Medae** village. Road turns SSE.
- 278 **Ershad ben Shaggur** village. The country in this neighbourhood provides good grazing in the spring and water is found in pools. A desert plateau extends to the
- 283 **Wadi Siadrek**, which the route follows downwards through an oasis with abundance of water, date-palms, and cornfields, to
- 303 **Ederi**, town situated on the **Wadi Shiyati**. A steep

miles

ascent from the wadi leads across a sandy desert.

311 **Wadi Radam** village.

318 **Wadi Shiuk.**

324 **Wadi Gaber.** Some palm-trees ; water brackish.

Hence an alternative route goes to **Tekertiba** via **El Goreifa.**

Miles from
Wadi
Gaber

The general direction is SSW.

3 **Grat el Adam** village.

10 Cross **Wadi Moreja**, and several wadis forming an oasis in which is

17 **Gerazan** village.

29 **Gella** village. Route descends, crosses a wadi, and ascends to

36 **Kerderfel Trez.** After another 20 miles of desert it descends to

60 **El Goreifa** town, alt. 1,102 ft., in the **Wadi Layal**. The direction changes to E. by N., and the road follows the deep and fertile valley of the **Wadi Layal**, past the villages of **Jerma**, **Breg**, **Fogar**, and **Kurayo** (probably now uninhabited) to

76 **Tekertiba.**

The road continues across a sandy desert.

327 Cross **Wadi Beni Awejir.**

344 **Feredrhu** village at some distance on the right.

349 **Umm el Hassan** village, also on the right.

378 **Tekertiba** in the fertile valley of the **Wadi Layal**.

The road crosses the wadi and ascends to a desert tableland with patches of vegetation, direction SE. ; it crosses several wadis running E. Numerous small acacias.

miles

- 400 **Amran**, alt. 1,867 ft. Route continues across the desert.
- 414 **Tessawa** village, alt. 1,732 ft.
- 416 Cross the head of **Wadi Aghar**, 1,923 ft., running NE., where there are cornfields, a village, and some water. Route then passes through sterile country.
- 425 **Umm el Hammam** village, alt. 1,781 ft.
- 444 **Murzuk**, alt. between 1,496 ft. and 1,831 ft.
- For other routes to and from Murzuk see Routes 67, 69, 70. For the town see p. 205.

ROUTE 67

SOKNA—MURZUK

miles

- 0 **Sokna**. The general direction is SW. Recent Italian authorities report that this road, at least as far as Sebkha, as well as a branch to Brak, is passable for carriages.
- The road passes through the plain of **Jofra**, intersected by small *wadis*, with trees in them : it ascends by a winding track past
- 19 **Birgodefa**, alt. 1,640 ft., where there is an excellent spring.
- 25 Pass in the **Jebel Soda** (2,464 ft.). The road descends very rapidly, crosses a number of wadis running E. to form the **Wadi Muserat**: several more wadis are crossed, all with low banks, and containing some vegetation and grass, and all rising in the **Jebel Soda**.
- 50 **Wadi Tamashin**. Beyond this the road rises to cross the **Jebel Mailera Soda** and **Jebel Homra** ; it then descends to the
- 62 **Wadi Warkan**, where there are vegetation and springs.
- Road then passes between two hills known as the **Kahf el Gharbi** and **Kahf es Sherki**, and traverses the **Seghir ben Afien**,

miles

- 84 Passing W. of the **Jebel Ramla el Kebira**.
It then continues for $1\frac{1}{2}$ days' march over a plateau of hard earth, and then over sandy country.
- 97 **Ramla** village is shown $1\frac{1}{2}$ miles W. of the road on Italian maps, but is not mentioned in any accessible authority.
- 113 **Umm el Abid**, town and oasis. Route here enters Fezzan proper. Umm el Abid lies at the E. end of the **Wadi Shiyati**, and contains the first vegetation met with for 44 miles. From this point to Murzuk there is a series of oases, as the road traverses the **Fezzan** district.
The road crosses the oasis to
- 125 **Zighen**, small town, alt. 1,742 ft., situated at its SW. corner, and going SSW. crosses a ridge, leaving some 5 miles to S. the oasis and village of **Zemma**, and proceeds over undulating sandy country to
- 145 **Bir Gurmeda**, oasis.
- 153 **Temenhint**, village and oasis, alt. 1,650 ft. It then goes over hilly country with little vegetation to
- 167 **Sebkha** oasis, in which are the three small towns of **Jedid**, **Karda**, and **Hajara**. Beyond this the road goes SSW., rising gradually as it crosses a hard sandy plain.
- 180 **Bir el Biban**, $1\frac{1}{2}$ miles W., situated in the **Biban** range of hills running E.-W. It crosses three other parallel ridges and enters the undulating, sandy, and stony plain of **Seghir el Mala**, which it traverses to a large oasis in which lies the village of
- 210 **Ghodwa**, springs and date-palms. The road crosses the oasis, skirting the **Wadi Neshawa** on the right.
- 227 Cross **Wadi Nimmel**, on the southern lip of which lies the well of
- 230 **Bir Gatadima**. Route then proceeds SW. across sandy undulating desert country to
- 260 **Murzuk**.

ROUTE 68

KESHAM EL KABESH—SEBKHA

miles

- 0 **Keshem el Kabesh** (alt. 880 ft.). Route proceeds over rugged country, in the general direction S. by E.
- 8 Cross **Wadi Ukiss**.
- 21 **Wadi Zemzem** (alt. 909 ft.), a broad valley with wells and pasture in June; much *Acacia arabica*. A very steep ascent up a pathless ridge to a height of 1,400 ft. leads to the N. edge of a desert plateau of hard clay. This plateau is crossed, and descent made down its southern slope to
- 34 **Sheria esh Sherkia**, village, alt. 1,330 ft. On the left bank of the **Wadi Gharia**, which runs E. and N. into the Zemzem, and contains date-palm trees and some cultivation. The direction changes slightly to SSE., over undulating country across several small *wadis* running E.
- 54 Twin arms of the **Wadi Shrob**.
- 65 Cross **Wadi Bu Jila** (well). Route passes through a region with plentiful water and good fodder.
- 78 **Wadi Sesemet**. Beyond this wadi lies a barren stony plateau, over which the route proceeds in a more easterly direction and descends to the
- 106 **Wadi Umm el Kail**, alt. 940 ft., which runs NE. The *wadi* contains wells with good water, and fine pasture. The direction changes to almost due S., and after traversing plateau country the road first reaches the **Wadi Retem** and
- 125 **Wadi Melek**, both running NE. It then crosses a number of small *wadis* that run E., and also the
- 160 **Wadi Fat**; after which it traverses a stony waterless plain studded with occasional mimosa bushes.
- 198 **Wadi el Had**, alt. 2,980 ft., which runs NE. and contains wells. The route continues in a southerly

miles

direction, but with constant windings, over the spurs of the **Jebel Soda** across a small plateau.

204 **Wadi Ifrish**, running E. The **Jebel el Juro** to the W. is 4,000 ft. high. Several wadis flowing down W. from the **Jebel Soda** are then crossed, in one of which lies

239 **Sidi Bu Agol**, a village with the sacred tomb of the marabut **Sidi Bu Agol**. Some little way on the route crosses the **Wadi Mezuda**, also running W., and passes over an undulating plain with numerous large sandstone blocks.

268 **Wadi Shiyati**, which it enters at the village of **Temsawa** (wells, date-palms, and pasture). There are numerous villages and oases in this important valley. Route proceeds S. by E. over a sandy desert.

290 **Wadi Zelaf**, which runs from SW. to ENE. Uninhabited oasis. There are wells at some distance to E. and W. of the route. The path now proceeds over undulating sandy desert in the same direction.

499 **Sebkha**, oasis.

ROUTE 69

GHAT—MURZUK

For routes leading to Ghat see Route 72.

This route is described from the statements of travellers between 1826 and 1861; and the most recent Italian map, dated 1911, seems to be based on their observations alone. Undoubtedly this map is incorrect in some particulars, and the distances given below must be accepted, therefore, with caution. There is also good reason to believe that since this country was last visited by European travellers it has been depopulated to a considerable extent; probably all the villages mentioned are not now inhabited, and their wells may be filled up. The route is easy travelling, but is bad for

animals, since the plain E. of Sardales has no water and little grazing.

miles

0

Ghat, alt. 2,316 ft. Road goes E. across the plain to the black basaltic range of the **Warirat**, and continues N., leaving the chain of mountains on the E., and a ridge of low sand-hills on the W. It traverses a broad deep wadi containing much herbage in February.

29

Kasr Janun, 2 miles W. A strangely shaped hill, higher than the neighbouring peaks, projecting to the E. from the range. Beyond this, route crosses a sandy plain for a day's march, and then turns NW. into a steep narrow valley with a few *tholk* trees. The gorge runs in a NE. direction, and leads to a broad plain, a few miles across, to the oasis of

72

Sardales el Awinat, alt. 2,323 ft., where there is a fine supply of water from several springs. The road continues over an undulating plain for some 15 miles, and then proceeds NE. over a bare stony plain; the Soda, or black mountains, a chain running N.-S., coming into view on the E. These mountains are followed at some distance on the right, the general direction being ENE. over a vast stony plain dotted in places with trees of acacia and *tholk* trees, these last becoming more numerous.

139

Wadi el Alfao.

191

Tin Abunda, alt. 1,834 ft., where there is a well of excellent water 30 to 40 ft. deep. Beyond this the series of oases, with luxuriant clumps of date-palms, which lie in the **Wadi Layal**, are traversed.

213

Ubari, village.

225

El Goreifa, village, alt. 1,194 ft.

230

Jerma, village.

241

Tekertiba, village. Hence the latter part of Route 66 is followed to

307

Murzuk.

ROUTE 70

MURŻUK—TUMMO

General direction S. Distances, which must be accepted with caution, from an Italian map of 1911. The road passes through desert country, with some oases. There is some reason to suppose that between 1874 and 1879 the country was becoming depopulated, and the process may have continued, and wells may have become silted up.

miles

- | | |
|-----|--|
| 0 | Murzuk. From here one road goes SE. to Tabaniya (12 miles), two springs, and then E. by S. to Bidan (12 miles), while the route followed goes ESE. over a sandy plain to |
| 7 | Haj Hajil , and thence S. by E. over similar country to |
| 26 | Bidan , almost entirely in ruins in 1874. Gardens. Thence SE. to |
| 32 | Bir Domran. Beyond this the road goes SE. for about 15 miles when it turns more to S. In the whole distance the travelling is bad, and there is sparse vegetation, with grazing for camels in places ; the road passes between sand-hills, often over 100 ft. high. |
| 61 | Mestuta , a small oasis, some 5 miles across from N. to S. ; thick scrub growth, good grazing, an old castle, and several springs of brackish water. From here the road goes SE. over stony desert, crosses the Gurt el Kebir , a spur of sand-dunes running NE.-SW., traverses an undulating sandy plain to S., and leaves to E. Umm el Adam and Jufara , where there are said to be wells. |
| 94 | Bir Dehir , a well with date-palms. The road goes S. through the date-palms. |
| 107 | Katrun , alt. 1,600 ft., a town of 1,500 inhabitants |

miles

in 1879, among date-palms. Beyond this a valley from 1 to 2 miles broad is followed to **Tejerri**, the first part containing many palms.

116 **Bahi**, a small village with a spring.

120 **Medrusa**, village, whence a caravan-route goes SE. to **Wadai**. The palm-grove ends beyond the village and the road goes S.

125 **Bir Zaufra Tedusma**. Palms. Road thence goes SSE.

129 **Bir Twal**. Palms.

140 Pass on r. **Kasr Awa**, ruined village ; some palms. Road continues W. of S. down the valley, here wide, barren, and stony, and entirely without palms.

151 **Kasr Taghe Fruma**, ruins. Hence the road passes first through sandy country, and then past palms.

161 **Bir Salenuna**, wells. Road then goes W. of the end of the spur of **Ras Tejerri**, which juts into the valley. It turns SSW.

164 **Tejerri**, alt. 1,811 ft., a small and partly abandoned town, with palms, gardens, and good spring water, with ruinous walls ; this is the most southerly inhabited part of **Fezzan**. Fodder for camels has to be carried henceforward, as it cannot be found on the road. The road goes E. of S., across a barren, hilly desert, strewn with sandstone blocks, passing a ruined castle at **Kasr Ali Zedani**.

176 **El Had (Wadi Juri)**. Some vegetation but apparently no water. Road continues S. by W. over a stony barren desert, and after crossing a ridge descends into a deep valley to

189 **Dendal Galadima**.

203 **Bir Meshru**, an important well, said to provide the only water found between **Tejerri** and the **Tummo** hills. The road goes S. by W., passing between two ranges of hills on E., some 25 miles distant, and on W., some 15 miles distant, passes to W. of the hill **Biban**

miles

Meshru, and traverses a stony plain to a red sandstone ridge, which is crossed, the S. descent being steep to

228 **Lagoba Buia**, a big valley running E.-W., and some 10-12 miles wide, which is crossed to S. A small ridge is then crossed to

241 **Lagoba Keno** valley, about 4 miles wide, which is traversed to

253 N. boundary of **Alaota Kyu**, a high gently undulating plain of gravel and sandstone, alt. about 2,300 ft., which is crossed. It rises markedly towards the S., the road passing close to W. of a low rocky ridge, **Lebrek**, and some distance to E. of **Jebel el Ain**, and reaching the **Tummo** hills, of blackened Nubian sandstone, bare except for a little grass after rain. After entering the hills the road passes between pyramidal peaks, and over numerous water-courses to the springs of

288 **Tummo**, alt. 2,658 ft., where there is excellent water: they lie on the N. side of the southern and highest part of the hills.

ROUTES TO THE SOUTH-WEST AND THE FRENCH SAHARA

ROUTE 71

GHADAMES—GHAT

The following description is taken from that of a traveller who made the journey in November and December 1845. He states that there are 4 or 5 well-travelled routes between Ghadames and Ghat, and that the route which he followed, namely the most easterly, is the worst and most desolate. The camel caravan with which he joined forces chose it

because of its greater safety from robbers. It is frequented only in winter, being scarcely ever used in summer. The other parallel routes afford more herbage, and pass here and there through inhabited country with flocks of sheep. The next route to the W. of that described is the shortest.

In the absence of more precise information, this route can only be described by days or stages from **Ghadames**.

1st day. In the first stages the route to **Fezzan** is followed. The direction at starting is E. Half a day's march.

2nd day. Direction SE. over good stony road through the broad level bed of a valley ; ranges of low hills on both sides.

3rd day. Good road, less stony ; some herbage. Reach well of **Maseen**, deep, but water not very sweet ; a few palms.

4th day. From **Maseen** the road turns sharply S., leaving the route to the **Fezzan**, and passes up a gorge in a low mountain range which hitherto has been to the S. of the route. Steep ascent of some 100 ft. to a flat plateau of crumbling limestone, with occasional herbage.

5th day. The plateau opens out into a vast plain, slightly undulating. In some places the track is well defined ; in other places the ground is too hard to show the footprints of camels. General direction to **Ghat** from here on is S. by E. The road is marked with stone cairns.

6th day. In the middle of the 6th stage the plain breaks into wide shallow valleys, and at the end of the stage a broad valley is reached, stretching E. and W. ; **Bir Nathar**, a well very deeply cut through rock, with excellent water. Some herbage and brushwood. At this well travellers should provide themselves with water sufficient for 6 to 8 days.

7th day. A short march of $3\frac{1}{2}$ hours leads to a wadi with rich grazing. The plateau is now broken into deep and broad valleys, rising into high ranges of hills.

8th day. The ground continues throughout the 8th day's march to be broken into broad and long valleys, with herbage in the wadis.

9th day. Over broken ground, now broad valleys, now low hills, and reach the first range of sand-hills met with since

leaving Ghadames. There is a little coarse herbage growing on the occasional patches of hardened earth.

10th day. Sand region. At noon descend into the deepest wadi yet encountered. (Arabic and Tamahek inscriptions cut on big blocks of rock.) There is no herbage or firewood, as frequently happens in these stages. The road winds between the sand-hills, which here increase in number.

11th day. Three hours amid sand-hills, difficult travelling for camels owing to the abruptness of ascents and descents. No herbage, entirely sand until the road reaches the wells of **Mislah**. Water is found 4 or 5 ft. below surface of the sand. It is extremely brackish and highly purgative. On SW. a lofty sand-hill lies close to the water pits. The valley is here 1 mile in length and $\frac{1}{2}$ mile in breadth. No traces of road are visible.

12th day. Continue over the hilly sand. In the evening firm ground is reached in a stony desert, with some acacia-trees.

13th day. Road winds considerably but its general direction is S. There is little herbage and no fuel. Several ranges of low hills are crossed.

14th day. The stony desert continues. Camp is pitched between two mountain-ranges.

15th day. A little sand here and there in the stony desert until the well of **Nijberten** is reached, with excellent water, some bushes, and hardly any herbage.

16th day. After $2\frac{1}{2}$ hours pass on r. the well of **Tababothan**, with good water. The country is broken. Encamp in the early afternoon.

17th day. A short day's journey, over the same kind of country.

18th day. The same kind of country.

19th day. After a few hours come in full view of the Tuareg camel-grazing country, and descend into a fertile plain, with excellent and abundant herbage due to recent rain, very unusual in this dry country. Reach the well of **Tadoghsin**, with excellent water.

20th day. The whole country is intersected, and is bounded on every side by mountains. The road passes between a strangely shaped rocky hill, **Kasr Jenun**, or castle of the Genii, and the hills to the W. Across the Kasr Jenun to the E. is visible the black basaltic range of **Warirat**.

21st day. The plain contracts, and assumes the shape of a deep broad valley. On the E. is a low range of sand-hills, and on the W. the high rocky chain of Warirat, just mentioned; $\frac{1}{2}$ day's march hence to **Ghat**.

Hence to Murzuk, see Route 70.

ROUTE 72

GHADAMES—TUAT

This and the two following routes connect Ghadames with French territory. General direction SW. This is a desert route passing through almost uninhabited country, where water is very scarce and found only at considerable intervals; but there is plenty of fuel and grazing for camels. On leaving Ghadames the road goes SSW. along the NW. edge of the **Hammada el Homra** and then, trending to the W., crosses the plateau of **Tingher** and follows the N. edge of the Hammada **Ben el Asfar** or **Ajenor** until it enters the district of oases known as **Tuat**. Since this route was described the country has been under a more settled government, and it is therefore probable that the wells mentioned are still open. The distances given are taken from the maps available, which, however, do not show all the places mentioned by the authorities; to fill in gaps caused in this manner days' marches have been given. It may be noted that the maps available for the eastern part of the route are more complete than are the others.

miles

0

Ghadames. Road runs S. by W. and passes a series of salt marshes (*sebkha*).

miles

- 12 **Hassi Imolei**, well, bad water. Route then traverses very broken country, and turns to the SW.
- 26 Road meets the most important road to **Ghat** from **Ghadames**.
- 34 **Wadi Imolei**, coming from S.
- 45 Cross **Wadi Timisit**. Beyond this a *hammada* is traversed.
- 58 **Wadi Imsolawan**. Direction is now SW., and N. end of the **Jebel Imsolawan** is passed, the road going S. by W.
- 68 **Hassi Tefoshain**, well ; bad water.
- 71 Road passes to the N. of a precipitous hill, **Jebel Tintedda**, and crosses an undulating stony plain, going WSW., to the great valley of **Tintedda**, when it goes W. by S. to
- 80 **Hassi Tini el Ulin**, lying in the district of **Gafgaf**. This district is traversed in the same direction.
- 103 Hereabouts cross several wadis all known by the name of **Ibtat**, until at the
- 128 East end of **Jebel N'Eidi** road turns SW. and enters the **Wadi N'Eidi**, down whose bed it goes to WNW., until it comes to a well. Going over desert it crosses several wadis, reaches the **Wadi Bela Ghadames** in one day, and passes the **Jebel Bela Ghadames** the next day, as it crosses the stony **Twirad** plain, direction WSW. The next day it continues in the same direction across the N. edge of the plain, leaving a ridge to the N. ; as it does the following day until it reaches the **Wadi Tijiturt**, flowing from the E., which it follows to
- 212 **Temassinin**, well ; a small oasis only inhabited during the date harvest ; 100 date-palms. Beyond this the road leaves to N. the **Hammada Tansruft**, lying on the top of a bank 100 ft. high, passes through some sand-dunes, goes along the N. edge of the limestone hammada, enters the **Wadi Ikelran**, which it follows to

miles

WNW. Leaving this it enters the fine valley of the

234 **Wadi Igharghar**, where there is good grazing and plenty of fuel, passes across a fairly high *hammada* in one day to the **Wadi Tiginkurt**, and the next day reaches a place where there are some wild palm-trees and where water can be obtained by digging, the direction for these two days having been NW. The next day the route goes at some distance to the S. of the dunes of **Abiod**, and then crosses a *hammada*, keeping the same direction. On the following day, after passing some scrub growth, it trends to the W., crossing the *hammada* with a line of hills to the N., and the next day, still keeping these hills to the N., crosses the **Wadi Sklaven** and the **Wadi Sheikh**, both coming from the S. The hills then disappear and the NE. end of a ridge of hills is passed on the S., the road leading during the sixth day to the salt marshes of

358 **Misigen**, lying in a plain, with good water and plenty of fuel at a well $1\frac{1}{2}$ miles E. of the steep ridge which runs across the plain. Beyond this a plain of black stones is crossed, direction W., with a range of hills lying N.

387 **Wadi Anisilt**; plenty of grazing; water could probably be obtained by digging. The direction changes WSW. and the road then crosses broken ground, passing the

391 **Wadi Ajrab** (Ajrem), and enters the *hammada* **Ajenor**, a barren, stony plain, which it traverses WSW., crossing the

407 **Wadi Mora**, to the

418 **Wadi Lefaya**. Then, crossing the Wadis **Fida** and **Mochamma**, road continues over the same *hammada* across the

433 **Wadi Zereba** and down the Wadi Masin, past the

miles

Jebel Tadmait lying to N.; crosses the **Wadi Jemel**, with very fine grazing, to the

449 **Hassi Twil**, lying in the **Wadi Masin**. It continues down this valley, always following the N. edge of the *hammada*, crosses the watershed of the **Wadi Hauk** or **Wadi Melil**.

466 **Hassi Ersmelil**, good grazing and, presumably, water. The **Jebel Tadmait** now begins to disappear, as the road trends to N., and a stony plain is followed which slopes gently down to W., direction SW. The plain becomes wooded with *domram* trees. The village of **Hassi Sidi Jaffer** is passed some distance to S.

508 **Foggaret es zua**; some palms. Road continues through *domram* woods.

521 **Igosten**.

531 **Kasr el Arab**, a small town of 1,500 inhabitants (in 1864), an important trade centre for dates, where there are date-palms and plenty of water. This town is the most important place in the oasis of **In Salah**, which lies amidst sand-dunes. The road goes past salt marshes, and then over good grazing land.

567 **In Ghar** oasis, with several villages and a considerable population. Beyond the oasis is a stony plain.

573 **Ain Sidi Sheikh Ali** spring, the most easterly of several springs lying in the plain of **Ghaba**, where there is much grazing. The road then passes through sand-dunes, and crosses a barren, waterless plain.

593 **Tit**. Hence a low sandstone ridge is crossed (direction S. of W.) to a desert, on the W. side of which, in the district of **Aulaf**, the road enters

634 **Kasr Timmaktan** village, where there is water. Beyond this the road goes WSW. to the highest point of a stony, barren plateau, descending on the other side to some sand-dunes, which are traversed for a short distance.

675 **Taurirt**, the most southerly village in **Tuat**.

ROUTE 73

GHADAMES—TUGGURT

This route is described by a traveller who traversed it in February 1893. After the springs of Imolei (12 miles) there is no water until Hassi Twaiza (227 miles) is reached, and the intermediate country is difficult travelling. Caravans usually take 12 days, but it can be covered in 8 days. The country is sandy plateau, variegated by sand-dunes. In the first 75 miles the altitude decreases rapidly. There is then a rapid ascent to an extensive plateau that terminates in an abrupt declivity, followed by a gentle ascent, and finally by a long and regular descent to the Hassi Twaiza. Between Twaiza and Tuggurt there are numerous wells. The country is extremely uniform throughout, with a great lack of outstanding features to distinguish its successive stages. A guide would seem to be necessary. The road winds constantly, but the general direction up to 280 miles is NW., and thereafter NNW.

miles

- | | |
|----|---|
| 0 | Ghadames. Road goes in a W. direction. |
| 12 | Imolei springs. After crossing some sand-ridges, road enters upon a plain covered in January with a dense growth of plants and shrubs. |
| 35 | Road crosses a sandy plain about 2 miles wide and then enters sand-dunes, some of which attain a height of 1,000 ft., but become smaller as the road goes W. : all these are covered with vegetation in January. This kind of country continues to the great dune |
| 58 | Ghurd el Merekh. Road crosses this and numerous depressions, continuing over similar country. |
| 74 | S. and W. of the end of the Ghurd el Merekh. |
| 79 | Ghurd el Ferd. Road continues over country where vegetation becoming less, and there are fewer depressions. |

miles

- 121 Highest point of road, 1,332 ft. Road then descends, crossing a flat plain called
- 127 **Feijet el Berga**, alt. 689 ft.
- 131 **Ghurd Dabdaba**.
- 138 **Ghurd el Tita**, near which are a number of depressions.
- 152 **Zemul el Kebar** region (a name meaning the great dunes), with very poor vegetation.
- 181 **Ghurd el Hashana**. Road passes across a series of sandy valleys separated by arid dunes, into a sandy plain.
- 214 **Ghurd el Liya** on
- 227 **Hassi Twaiza** ; good well. Road proceeds through sandy country broken by hills that make the travelling difficult ; occasional small vegetation.
- 234 **Ghurd Jenien** on l., and
- 244 **Ghurd Yagud** on r. The road then crosses a valley that leads to
- 253 **Hassi Mrabtin**, 3 miles to the E. ; cross several other valleys.
- 260 **Hassi Bu Tina**, 2 miles to the E. Road reaches the widest of the valleys in which is
- 268 **Hassi Abd el Kader bel Haj**. **Hassi Aulad Messaud** lies 4 miles to the E. in the same valley.
- 270 **Ghurd** and **Hassi Wad el Ghazal**, to the E.
- 276 **Ghurd Shegga** to the E. Road passes along river beds.
- 280 **Hassi Mettakki**, and
- 283 **Hassi el Usif**, both of which are to the SE. of the **Ghurd Bu Guffa**. Road proceeds through sand dunes.
- 287 **Hassi Oglat Getatia**, a well reported to be dry, and continues over a sandy plain, intersected by frequent depressions.
- 292 **Hassi Ahmed Milud**, $\frac{2}{3}$ mile to the E.
- 311 **Hassi Malah es Saada**, 2 miles to the W. In addition

miles

to the depressions there are now also sand-dunes, with some vegetation.

319 **Sidi bu Hania**, palms 2 miles to the E. Road proceeds along the E. ridge of the **Igharghar** valley, finally descending from the plateau to

349 **Tuggurt**.

ROUTE 74

GHADAMES—BERRESOF

The only accessible authority for this route is Duveyrier's map. The direct distance is 186 miles, but a considerable addition must be allowed for the windings of the road, as the entire route is through the country of the great dunes. The only water recorded is at Zemlet el Harsha (124 miles) and at Mekwem el Asel (134 miles). The general direction is NNW.

II. ROUTES IN CYRENAICA

ROUTES FROM EGYPT

ROUTE 75

ALEXANDRIA—MARSA MATRUH—SOLLUM

Alexandria to Marsa Matruh.—A railway (4 ft. 10 in. gauge) runs from Alexandria along the coast to El Daba, 101 miles. The line is unballasted but rests on firm earth. No water is available, however, W. of Alexandria, and the railway was not in use in 1916. It could only be rendered fit for use by the extensive erection of condensing-plant. The Khedival motor road cannot for the most part be traced; but the ground, which is gravelly, provides tolerably good going for wheeled traffic and troops on the march as far as Sidi Barrani.

Marsa Matruh is a village consisting of a coastguard station, barracks, mosque, Greek church, and about 100 houses, all more or less damaged in December 1915. Two months later, being then uninhabited, it became the base of the British expedition against the Senussi. There is a small landlocked harbour for vessels up to 1,000 tons, with deep water close inshore, and the water-supply is excellent. On the landward side is a crescent-shaped range of hills, 200–300 ft. high (now strongly fortified by blockhouses) whose slopes are normally cultivated with barley.

Marsa Matruh to Sollum.—The route continues with easy going over *seghir*, being marked by white stones. The Khedival motor-road can be traced for about 20 miles, in the neighbourhood of Sidi Barrani; here it is overgrown with a tall plant (6 ft. high, red flowers). There are no serious obstacles except a range of hills about 20 miles out, and stretches of rocky, sandy, or *sebkha* country. In February 1916 the route was found to be absolutely depopulated, owing to fighting and starvation.

miles

- | | |
|----|--|
| 14 | Zawiet Umm el Rakham , a small walled village, with <i>zawia</i> , by a salt lake. Palms and fig-trees; large supply of water from wells. |
| 22 | Up to this point there is a fairly well-defined road; after this it is only visible for short stretches. A range of hills, 400–500 ft. high, has here to be crossed, and gives much trouble to wheeled transport. Broken and rocky country till |
| 28 | Bir Abdia , a large Arab farm (destroyed) with extensive cultivation and buildings. There is a very good water-supply, 1,000 yds. SE. by S., where a natural stream flows into a Roman cistern in a nullah. Plenty of brackish water can be obtained almost anywhere on the beach, by digging 4–5 ft. down. |
| 44 | A ruined Senussi <i>zawia</i> , with a large water-supply, on the coast. The position lends itself to defence, |

miles

and a break in the rocks to seaward might make it possible to construct a boat-landing, the only one possible between Marsa Matruh and Sidi Barrani.

- 46 **Umjile**, a fair-sized village with numerous palms, now destroyed. Many wells, but not so much water as at mile 44.

The country is by now flat again, and going for wheeled transport good, though there is no sign of a road.

- 55 **Marsa Umm Merzuk**. Three good Roman wells.

- 60 **Shammas**. Village; *zawia*; palms and cultivation; all now destroyed. Plenty of good water from wells. These are the last palm-trees till west of Sollum. The next good water is at

- 72 **Maktil**, but all the way there are native wells with a few gallons in each. Hence the direct route would follow the coast to Sidi Barrani; but this is apparently never taken, caravans going inland from this point by **Agagir**, where sand-dunes begin, across a low range of hills to

- 80 **Wadi Nafia**. Unlimited water in the form of ponds, underground river and wells. Battle, February 1916, in which Gaffa Pasha, Enver's brother, was taken prisoner. Route turns NW. towards the coast, and in a few miles the Khedival motor road becomes traceable, leading to

- 95 **Sidi Barrani**; formerly a flourishing village with *zawia* and coastguard station, and a good many Europeans; now completely destroyed. The site is surrounded on the S. by a semi-circle of defensible hills; opposite is a break in the reef, making a good harbour for boats, with jetty. Plenty of level ground, used as an aerodrome in 1916. Water is good and abundant. The country now becomes rocky and broken again.

- 99 Two **wells** to N. of the road, which is still traceable.

They are not marked by any trees or buildings. Water-supply fair (3,000 men supplied in one night), but the wells refill slowly.

The country is now very rocky, with patches of loose sand; bad for wheeled transport. Many brackish wells, but no fresh water till

- 121 **Bagbag**; coastguard station; a little fresh water and unlimited brackish to be obtained by digging anywhere in the sand 3 ft. down.

- 131 The direct route to Sollum follows the coast by **Bir Tegdida**, with an immense supply of fresh water, to

- 141 **Sollum**.

This route is marshy in the winter, passing over *sebkha* country, and the expedition of 1916 struck inland from Bagbag SW. by W. to

- 136 A dozen **wells** 4 miles from the foot of the Hagag es Sollum. Unlimited water; polluted in 1916 by dead camels. Hence the route turns NNW.

- 141 The escarpment of the Hagag can here be climbed by motors.

- 146 **Sollum** (see p. 178).

ROUTE 76

CAIRO—FAYUM—SIWA

Railway to Fayum; Fayum to Siwa. The southern route from Egypt to Cyrenaica starts from Cairo by railway (4 ft. 8½ in. gauge), 35 miles SSW. to Fayum, an oasis, below the level of the Nile, from which it is watered. Further, 100 miles to SW., are the Baharia Oases, lying in a deep depression 60 by 30 miles in diameter (altitude 112 ft. above sea-level), surrounded by cliffs 80–150 ft. high, which are broken by clefts down which the tracks from the desert pass to the fertile land around the springs, of which the oases

include from 20 to 30. Population 6,000. An Egyptian police officer, the *Mamur*, is responsible for order. The chief cultivation is of palms, fruit, and grapes.

From Baharia a line of three oases leads WNW. to Siwa. The track, 150 miles long, leads WNW. over the plateau, and rises to the height of 194 ft. ; the ground descends till at the first oasis, Hatiyet Sitra, it is 25 ft. below sea level ; the third, El Areg, is 70 ft. below sea-level, and 50 miles further WNW. is the important ancient settlement of Siwa. (See p. 189.)

Siwa is the last station administered from Egypt. About 90 miles to the WNW., across a high barren plateau with wells at Kirba (15 miles), is the Senussi settlement of Jaghub.

Thence route continues across the Libyan Desert to Aujila and Benghazi. See Route 86.

ROUTES ACROSS CYRENAICA FROM EAST TO WEST

The routes across Cyrenaica are very irregular and variable. The chief fixed points on the coast are the ports, Benghazi and Derna, and the less important landing-places of Tolmita and Marsa Susa ; inland the larger permanent wells as at Ain Guba, the Fountain of Apollo at Cyrene, Messa, and Slonta ; and in the western interior, the town of Merj. The course of the routes is also determined by the easy crossing-places of the deeper wadis.

Except for these fixed points the routes vary with the seasons, according to the state of the wells, and the position of the native settlements. They are moved from year to year according to the areas in occupation ; for with the system of cultivation adopted the ground is tilled for a few seasons and then left fallow for some years. As, except for the wadis, the land is traversable nearly everywhere, the routes are altered with the movements of the Arab settlements.

ROUTE 77

SOLLUM—DERNA

miles

The main route (about 200 miles) runs between the coast and the foot of the Jebel Akbar. It passes west of Sollum hill on a route NW. to the well of **Bir Semlen**.

12 The route continues along the eastern foot of the Akabet el Kebir to **Kasr Jedid** where it crosses the Egypto-Cyrenaican frontier.

19 The course turns west to **Kasr Kumbus**. Thence the track goes WNW. partly along a depression between the front of the Jebel Akbar and the coast hills; passes 4 miles S. of the harbour of Marsa Tobruk. 26 miles of military roads in the neighbourhood of Tobruk have been constructed by the Italian authorities. (See p. 176.)

89 **Din el Gossa** at the head of the south-eastern inlet from Bomba Bay.

129 After passing Din el Gossa the track bends to NW., from 1 to 2 miles from the shore, to **Menelaus Bay**, the SW. corner of Bomba Bay. It bends more northerly to

154 **Azyris**.

There it turns north-westward and climbs on to the plateau and passes

161 **Ain Ersea**. Thence it continues over bare plains to

171 **Kasr Ras el Leben**, and then descends by a valley trending to the NNW. to

199 **Derna**. (See p. 170.)

ROUTE 78

DERNA—SLONTA—JERDES—BENGHAZI ¹

miles

From Derna there are three chief caravan routes to the west. The easiest but longest of the old tracks climbs on to the plateau to the SE. to the plain El Feteya, by the route to Sollum; near the Kasr Ras el Leben it continues to the south, crosses the heads of three wadis tributary to the Wadi Derna, to avoid which the course makes a long curve to the S. From the plain of Heisha the course goes due W. and then NW., and passes north of the village of

42 **El Masr.**

Here the route subdivides. The southern branch is the main route to Benghazi during the winter and so long as the wells contain water; it crosses the bare downs along their highest point past Zwei and the conspicuous

82 Cupola of the Marabut of Sidi Homri. The track descends slightly over a bare stony limestone plain to the

87 Roman wells of **Slonta**.

Thence (following route described by Haimann) the track goes to the SW., and

97 Crosses the route from Sira to Tolmita. It then bends to the WSW. and passes the wells of

121 **Karubet el Marawa**. On the same course, the route, after crossing numerous *wadis*, reaches the village of151 **Jerdes**.159 The route gradually bends to SW., to the fort of **Benie**.

¹ As the connexion of the new Italian roads (see p. 175) with the caravan tracks is uncertain in this route and in 79, the distances are given by the old caravan routes.

miles	
169	Wadi and village of Bu Sema .
179	Village and numerous wells of El Abiar (1,080 ft.). The track turns sharply to the west and descends to
191	Ras el Ferg , near the edge of the plateau of the Jebel Akhdar. It descends steeply down the scarp and crosses the coastal plain to
216	Benghazi .

ROUTE 79

DERNA—GUBA—MERJ—BENGHAZI ¹

miles

The eastern part of this route has three different tracks.

(a) The first follows the southern route above the right (SE.) bank of the Wadi Derna to

42 **El Masr**. It thence goes N. across the head of the Wadi Derna and, bending to WNW., rises on to the highest part of the Cyrenaican plateau near **Ghegab** (alt. 2,300 ft.) to

90 **Cyrene** (2,000 ft.).

6 m. further on the road joins route (c) at about mile 55.

(b) Coast path to **Marsa Susa** and to **Cyrene** via **Ras Hilal**.

The coast road crosses the Wadi Nagra, continues W. to **Kersa**, and on to **Waila Trum**, where the main route ends at about 27 miles from Derna. A secondary track then climbs on to the plateau to **Cyrene** (40 m.) and a rough path goes along the coast to **Ras el Hillal**; thence in 15 miles (4½ hours) a fair path, crossing three deep limestone gullies, continues to **Marsa Susa**.

¹ See footnote, p. 494.

miles

(c) Main route. This road starts from Derna to the WNW. along the coast ; it crosses over bare limestone plains and sand dunes to the

- 6 **Wadi Nagr**, at the mouth of which is a deep well at **El Sebile** (dry in July 1908). There was then no water on any part of this road between Derna and Marsa Susa.

From Wadi Nagr a steep ascent, partly by rough steps difficult for heavily-laden camels, climbs on to the plateau (alt. 750 ft.) ; it goes SSW. and then bends westward along the ridge between the Wadi Nagr to the S. and the Wadi Apari to the N. The level rises slowly to about 1,100 ft. with higher ground seen to the S. The track is a rocky path, through patches of thin scrub.

- 15 The first wells are at **Bir Liba**, 9 miles from El Sebile. An Arab cemetery around ancient tomb. Numerous wells, flocks of sheep, cattle and horses.

W. of Bir Liba the track improves and rises to 1,500 ft. and descends to the

- 18 **Wadi Umzigga**, a wide dale with numerous springs and wells. Considerable cultivated areas.

At **Ain Mogade** are two wells and springs due to bed of marly limestone. Cave dwellings on the valley side.

- 19 Gardens of 4-5 acres of maize and vines, fig-, almond-, and apple-trees.

- 21 **Barak**, springs and trees ; old well with stone steps. Around it 5 to 6 acres cultivated and about 1 acre under irrigation. Scattered population and considerable flocks of sheep.

- 22 To N. are the ruins of Roman town of **Beit Timir**.

The track rises over stony bare downs ; it follows the old Roman road with frequent wheel ruts of ancient traffic. The land has been partly cleared for

miles

cultivation, the stones having been collected into heaps. The summit is 1,800 ft. and is followed by a descent to

26 **Guba.** Ancient Roman baths and cistern; spring (which in summer of 1908 yielded about 30,000 gallons a day). Irrigated garden; fruit-trees; good pasture.

28 **Zawia Pshara**, a large Senussi settlement. [A branch track goes WSW. to **Ghegab**, 10 miles.]

32 **Lamlude.** Extensive Roman ruins. Alt. 2,000 ft. To west an area of rough limestone with scrub and thin forest, which appears more extensive to N. The route here is a good broad track.

37 **Zawia Turt** (2,000 ft.). Good wells; large cistern. Herds of cattle; very numerous goats; some camels and horses. A track on left leads to **Ghegab**.

38 Wells of **Safsaf**. Route follows old Roman road over undulating downs with rocky surface and numerous settlements off the road.

41 **Labrag**, ruins of small Roman fort; alt. about 2,000 ft.

Route continues over rough weathering limestone with large areas of low forest or scrub and of pasture in the spring to

47 **Sidi Rot Diasiasia.** The route is here joined by track and aqueduct from **Safsaf**, where there are ruined Roman reservoirs on a bare limestone hill 4 miles ESE.

[A second branch track goes WNW. in 4 miles to **Cyrene**.]

49 The main route continues due west to **Yekya**, a large permanent camp of the Hassa Bedouins, and

57 Crosses the **Wadi Imedi**, a small valley with some pasture.

The road becomes bad, passes **Sidi Raffa**, then on right of **Zawia Baida** to the

miles

65

Important permanent wells at **Messa**. They are on the floor of a wadi beside gardens some acres in extent.

Messa. Route rises on to rocky limestone plateau with cultivated areas in depressions; alt. 1,500–1,600 ft. At $5\frac{1}{2}$ miles is tomb of Sidi Abdul Wahed.

70½

Very steep descent to **Wadi Jeraib**, a gorge, in places 600 ft. deep; vertical cliffs. Floor of valley large cedars, and some barren olive-trees. Traces of frequent flow along the wadi, but in summer of 1908 the wells, 15 ft. deep on floor of wadi, were all dry, and water had to be carried from wells at Messa.

74½

Route descends wadi for 4 miles and then climbs again on to the plateau by the Roman fort of

76

Kasr Benijdem (1,500 ft.). Surface, rough limestone with thin forest and scrub. Limestones sandier and surface soil has more clay. Thence the road, which is fit for wheeled traffic, descends a gradually deepening valley, partly cultivated, with good pasture in the spring, past a Roman fort beside a reservoir 30 ft. square and 18 ft. deep, direction WSW., to

80

Wadi Argub (1,050 ft.). The floor of the wadi expands to a plain 200–400 yards across, sheltered by terraced hills. Zawia Argub is situated on hills to N. Cattle and barley cultivation. The wadi cuts through the hills to the N. in a sinuous ravine well provided with reservoirs. From the wadi the route climbs up a tributary valley. Rise to the plateau (1,500 ft.), which has remains of ancient terraced cultivation with retaining walls 6 ft. high; it descends slightly to the

83

Marabut of **Sidi Abdalla**. Two wells, both sometimes dry in summer.

[A branch route here turns off left to Benghazi. It traverses the valley of the **Jariaruma**, 150 to 300 yds.

miles

wide, rough and stony along the bottom, but good pasture, and sides covered with turf and olive-trees ; some cultivation of wheat and barley. A wooded ridge is crossed and

89 The track becomes worse, passing

90½ A branch track on right leading to **Zawia Gafrin**. It then crosses some steep undulations in rough and bushy country, and then ascends a cultivated valley to the summit of a

95½ Hill. A somewhat rocky descent is followed by a gentle ascent of two miles over a good road to a

98½ Branch on right to **Merj**. Turning first to right and then to left the road crosses a wooded hill, and then traverses in succession a belt of bush, bush interspersed with cultivation, and (for 4½ m.) an open, flat plain. It then crosses a small

108½ Rocky hill, which is a complete barrier to wheeled traffic ; hence it runs south through a flat cultivated valley, whose slopes are covered with vegetation, and reaches

111½ **Tekniz**, where there are two cisterns and a well. Hence other roads diverge to **Merj**, **Slonta**, and **Sira**. The road then leads past

115½ **Zawia Ksur**, a little to the right, and is fit for wheeled traffic as far as

117½ **Kasr Ksur**, a ruined Roman castle with a good well. Traversing the slopes of a grassy amphitheatre, and then a second about ½ mile wide, it enters a valley, and is somewhat difficult to find amongst bushes, rocks, and undulations. At mile

124 It leaves the valley, and passing on right at mile

126 A track to **Merj**, becomes better, enters another valley, whose bottom it follows past wooded slopes.

127½ The valley becomes narrower and heavily wooded ; the path becomes worse. About 1½ m. later it

miles

emerges from the valley and crosses the **Wadi Jibrin**, a small rocky water-course, and ascends to the marabut of

129½ **Sidi Jibrin**, where there is a small inhabited house and numerous wells. The path improves and becomes less rocky.

130½ A track diverges right to **Merj**. The path now rounds the slopes of **Jebel Abidat** (Black Mountain) on left, on whose side is a white marabut.

135½ Another track from **Merj** (4 hrs.) comes in on the right.

Cross **Wadi Dokran**, 18 to 20 ft. wide in March and not deep.

138½ Recross the **Wadi Dokran**, and follow a good level track fit for wheeled traffic past

144½ **Zawia el Gaffa**, hidden by small hills 300 yds. on right, and, about 400 yds. on right, the marabut of

146½ **Sidi Ahmeda**, close to which this branch rejoins the main route at mile 136 (see below); beyond which a gentle ascent over pasture-land for 2 miles leads to the wells of

151½ **Smuta**, where the water was turbid and yellowish in March. The road descends gently, passing **Zawia Umgbaida** 1½ miles to right, where there is good water; crosses a terrace and descends gently to

159½ **Wadi Laish**, the bed of a torrent. It then traverses grassy undulations and passes the two wells of

161½ **Temlito**, which are Roman cisterns containing dirty water; thence across a wooded terrace, the lower part of which is bare, and steeply down by a tortuous mule-track to

163 **Wadi Temlito**, a torrent bed, dry in summer. From this pasture-land is traversed to

165½ **Kasr Zmimil**, a quadrangular stone ruin with wells; whence the road leads past

miles

- 167½ **Rot Aissa**, a quadrangular stone ruin with wells, to the wells and quadrangular stone ruins of
- 169 **Lejiem**, leaving a short distance to left the caverns and underground stream of
- 171 **Lethe**, passing on right the luxuriant
- 172½ **Garden of Osman**, with an abundant supply of well water, and 1 mile farther on **Kedik** house on left, with well and garden. This portion of the road is practicable for wheeled traffic ; it is a gentle descent across an arid limestone plain with scanty pasture and tiny fields of barley, beyond which it passes through **Sidi Daud** and **Sidi Hussein** to
- 177½ **Benghazi.**]

From Sidi Abdalla the track descends 300 ft. down a steep gully to main wadi, and ascends gradually up western tributary on to the plateau, which is at general level of about 1,400 ft., while the wadis cut their beds down to about 1,200 ft. The plateau is rough, with areas of a few acres sometimes cultivated ; most of the plateau is covered with thin scrub, which farther west passes into low forest 20 ft. high. Cave dwellings. High grassy plains a few miles to the S.

98 Enter **Wadi Gharib**.

99 A mile S. up the wadi are two wells and some olive-trees. W. of the Wadi Gharib the country is undulating, scrub-covered, and varies from 1,200 ft. to 1,400 ft. above sea-level.

104 **Bugrat** (or Bigrata), an alluvial plain, about 2 miles long, draining to the plains of Merj.

110 Descend ravine to plain of Merj near Lake **Gharij** : dry in dry summers ; after wet weather, 7 miles long.

118 **Merj**. Alt. 850 ft. Town in and around Turkish fort. Site of ancient city of Barke. Pop. (1908) about 1,000. Pop. of district 20,000. Extensive cultivation on adjacent plains. Junction of routes to Tokra, to

miles

Tolmita, to Tekniz for Thegbare, and the southern desert routes (see 10 below).

[**Merj to Tokra.** The track goes westward and WSW. to **El Gafres** (6 miles) ; and then W. down the Wadi Zkitum (Valley of Olives) to **Tokra** (22 miles from Merj).]

- 121 From Merj the main Benghazi route goes SW. and Leaves the plains of Merj over a low ridge of limestone with some scrub. From this band of limestone the road enters the
- 124 North-eastern end of the plains of **Silina**. Continue SW. through areas, once cultivated, but now covered by bush. Plains about 7 miles wide.
- 131 **Bir Mletania**, a well 135 ft. deep in sandy loam. Well appears permanent.
- 136 **Marabut Ahmeda**. Cross low rises from NW. side of the plains.
- 140 Old fort and tank (dry in summer) at **Smuta**. Ascend on to plateau over bush-covered hills ; pass, 1 mile S. of **Bacha Argub**, a large Senussi *zawia* with storage cisterns of water.
- 149 Reach edge of plateau (alt. about 900 ft.) ; fine view over coast-plain to Benghazi. Steep descent to the foot of the Jebel el Dakar, the north-western scarp of the Jebel Akhdar, at 600 ft. Thence gradual descent over limestone plains, with some areas of bare limestone, cultivated patches, plantations in some depressions, and salt clay pans to
- 166 **Benghazi**.

ROUTE 80

TOLMITA—BENGHAZI

miles

This route starts along the road to Merj, which it follows for two miles to the Marabut Sidi Abdalla; the Merj road there turns southward to ascend the plateau. The track from Tolmita continues along the coast plain to the well of

6 **Bir Traba.**

11½ **Zearef** village.

16 **Sidi Mahlud** on right bank of the Wadi el Asra.

19 **Sigba**, where the shorter track from Merj to Tokra descends from the hills to the east.

28 **Tokra**, the ancient city of Arsinoe. Hence there are two chief routes on to Benghazi. The main route follows the shore along the dunes between it and Lake Bersis, which is 3 miles long and is fed by streams from the Wadi Zera and other wadis.

An alternative route keeps from 4 to 10 miles inland. It crosses the **Wadi Zera**, which drains a large area of the plains of Silina and of the Jebel Dahan above Bu Sema. At **El Kreba**, 14 miles from Tokra, the track turns SW. along the left bank of the Wadi Zera to the well at **Kasr el Tanil**, 21½ miles. It continues SW. for another 8½ miles and then bends to WSW. and joins the other route at **Zaiana**, 37 miles from Tokra.

45 **Deriana (Adriano).**

58 **Ziana**, on shore of Lake Ziana. Hence SW. to

64 **Benghazi.**

ROUTE 81

JAGHBUB—SELLA—SOKNA

miles

- From Jaghbub the route goes W. by S. to the
- 25 **Bir Bu Alua**, where it joins the main track from **Siwa**. SW. for 5 miles and then due W. to the
- 46 Hill of **Farkadi**.
- 86 Route turns from W. to SW., to the SE. of the plateau of Frem el Mark, and
- 132 **Fennek**. The route continues WSW. a few miles from the foot of the plateau.
- 166 It continues the same course to the well of **Bir Ajela**.
- 184 It leaves the wadi and crosses the plateau on the same course to
- 206 **Lebba**. Here it joins the main caravan route from Kufra and follows it to **Aujila**, and then goes W. by S. to the
- 276 Wells of **Jibbena**. Water bad. The same direction is followed to the
- 347 Oasis of **Abu Naim**, brackish water and many palm-trees. Track goes SSW. over a rough country with some vegetation to the
- 377 Entrance of **Wadi Bu Naim**, where the wadi turns to the S., the route rises on to the plateau through rough, hilly, desert country. It crosses two branches of the Wadi Belaun, which discharges through the Wadi Kabarit to the great Syrtis. The route passes three lake beds and turns WNW. to
- 430 **Moja**, a small oasis. Thence NW. by W., over hilly country through some vegetation with 4 large wadis, which are tributaries to the Wadi Kabarit, to
- 470 **Sella** (700 ft.). The route to Wadan goes over similar rough desert, crossing numerous wadis which descend to the N. and NE. to

miles

580

Oasis of **Wadan**, at the western end of the oasis of **Jofra**. The route turns to W. by S., past **Hon** to

600

Sokna, the chief settlement on the oasis of **Jofra**. Thence there are routes S. to Fezzan and NW. to Tripoli.

ROUTES ACROSS CYRENAICA TO THE SOUTHERN OASES

ROUTE 82

DERNA—ZAWIA EL AJA—AUJILA

miles

This route starts along the southern track to Benghazi, which it follows for 26 miles; it then turns S. over the plains of Heisha, 4 miles before passing Kasr Alnet Akba. It crosses these plains for 40 miles past Jebel Berkla to the

66

Wadi el Temime. The track continues on the same course to

90

Shafa, on the Wadi Samalus.

Thence southward across the plains to the well of

155

Kasr el Ajaba.

170

Zawia el Aja.

[A direct route of 120 miles crosses the Seghir el Khadi, to Aujila.]

The easier alternative route goes WSW. through **Waguas Ghedir** on the Benghazi-Jaghbug route, where there are wells, past the

206

Well of **El Magor**, to El Maaten es Sawono, in the Wadi Faregh. Gardens and wells.

Follow the Wadi Faregh to the uppermost of the wells of

223

Bir Jashim el Kubsh.

miles

- 256 Cross the Seghir to the wells and gardens of **Bir Rissam** on the Wadi Rissam. Here the track joins the main track from Benghazi, and either follows the wadi, or crosses the desert to the SW. of the wadi, to
- 326 **Aujila.**

ROUTE 83

MARSA SUSA—CYRENE—SLONTA—ZAWIA EL AJA

miles

- Marsa Susa**, on a delta fan formed from the Wadi Batum. Extensive cultivated area irrigated by water from the Wadi Batum. In summer the only fresh water is from springs $1\frac{1}{2}$ hrs. from the village. The track to Cyrene starts WSW. across the coast hills, and then rises steeply by a path along the face of the hills to
- 3 Spur overlooking the Wadi Dimi Ell (or Wadi Lebaiath), alt. 820 ft.
Cross gap between head of main wadi and of a tributary from the E.
- $5\frac{1}{2}$ Turn W. with fine view down the canyon of the Wadi Dimi Ell : alt. 1,130 ft. ; cave dwellings in cliff above. WSW. through forest on a limestone platform at level of about 1,100 ft.
- $8\frac{1}{2}$ The track follows old Roman road, and rises up the front of the plateau past the Eastern Necropolis to
- 12 **Cyrene.**
From the Fountain of Apollo the track goes southward, passing the head of the Wadi Bil Ghadir. It crosses the western end of a hanging valley tributary to that wadi.
- 15 Three miles from Cyrene is a plain, sometimes

miles

tilled for barley, and crossed by the Turkish telegraph line on the main route from Derna to Benghazi.

Cross the rough hills (2,020 ft.) beyond this plain on course due S. to well at

16 **Bir Hu.** Cross successive valleys, which are separated by scrub-covered ridges, to

22 **Wadi Firyah.**

The country rises to bare downs with occasional clumps of pines.

24½ Route turns to SW. toward the conspicuous

27 Marabut of **Sidi Mohammed Mahridi** or Sidi Homri.

It passes near this shrine on course to WSW. and reaches the

31 Roman wells at **Slonta**, in a shallow valley in wide stony downs.

The track descends the wadi to SW. to

39 **Sira.** There it turns due S. for

61 **Thegbare.** It descends the Wadi Samalus to

73 **Kasr Samalus**: this wadi goes E. and NE. to join the Wadi el Temime; which reaches the coast at Bomba.

The track is joined by one from the NE., which leaves the southern route from Derna to Benghazi near El Masr.

The route continues S. to

169 **Zawia el Aja**, where it meets the route Derna-Aujila (Route 82), and also a track to Benghazi, which goes westward, with a broad curve to the S., across the heads of numerous wadis that descend from the plateau down the slope to the south.

ROUTE 84

TOLMITA—THEGBARE—ZAWIA EL AJA

miles

The route starts for 2 miles across the coast plain, which is formed mainly of confluent talus fans from the wadis ; it bends to the left at the Marabut Sidi Abdalla and, by a steep winding road up a picturesque ravine, reaches the

8 **Marabut Sidi Dakil** (1,090 ft.).

[A route descends gradually and goes S. to the edge of the Plains of Merj : 10 miles. It bends to SW., and keeps for 2 miles over the slopes of limestone on the N. side of the plains ; it then crosses them to the town of **Merj** : 16 miles.]

The main route to the Southern Oases leaves the Merj road at Sidi Dakil and crosses the NE. part of the Plains of Merj. It goes SSE. to

Marabut Sidi Abd es salam, and then ESE. to the Merj-Cyrene road at

14½ **El Leucino.**

28 **Tekniz.**

Here branch routes go, one 15 miles NNE. to **El Gharib**, and another 10 miles W. to **Zawia Ksur**, whence it is 8 miles WNW, to **Merj**.

35½ From Tekniz the southern route goes SSW. to the wells at **Karubet el Marawa**, on the southern road from Derna to Benghazi. A well-marked caravan track goes SE. to

85 **Thegbare**, at the head of the Wadi Samalus. It there joins the main route from Cyrene to

193 **Zawia el Aja** (Route 83).

ROUTE 85

BENGHAZI—AUJILA

miles

From Benghazi route starts S. to SSE. over the fertile coast plains of the **Barka el Hamra**, past the well of **Ksebea**, then that of **Bu Drissa** and several others, gradually trending inland, and 2 miles to the W. of the Senussi Zawia of

35 **Tilimun.**

The route then continues in the same direction, and keeps about 15 miles inland, through less fertile country, the **Meslata Fadela** ; it passes near the wells at **Nuara** and by those at **Sagidea** and **El Abarik** to the

83 Wells of **Milha** and **Bir Marsifa.**

The main route turns SW. for 19 miles across the **Barka el Beida**, past the **Zawia Ajedabia** of the Madani sect, where there is a square fort and excellent water, to

102 The Ruins of **Hennea**. There it turns sharply to the SE. by S. for 28 miles, to the

149 Well of **Bir Ain**, which is also reached by a minor track of 38 miles from **Bir Marsifa.**

From Bir Ain the track crosses the desert, S. and SSE., to

168 **Bir Besseria** on the floor of the **Wadi Faregh**, where the water is brackish. It crosses the desert, still on a course to SSE., to

195 **Bir Rissam**, where there is a little water and vegetation.

210 Bitter well at **Marag**, on the bed of the **Wadi Rissam**. Here the track leaves the wadi, rises on to the western bank, crosses the desert for 52 miles, and descends again to the

262 **Wadi Rissam** at **Bir Zibil** near a salt marsh, which is crossed by a narrow path to

266 **Aujila.**

ROUTE 86

BENGHAZI—JAGHBUB

miles

- The route begins at the custom-house and goes SE. to the Marabut of Sidi Hussein, on the isthmus between the two salt marshes. At Sidi Hussein the track leaves the main route to the south and follows the southern road to Derna, ESE. to the river Lethe. At 10 miles it branches to the SE. near the gardens of Osman, and traverses the coast plain to the wells at
- 30 **Bir Silluk.** Cross S. by E. the bare limestone plains of the Barka el Hamra to the wells at
- 43 **Salueh.** Hence follow the right side of the Wadi el Ba to
- 59 **Hajj,** the last well in that wadi. Continue the same course to
- 67 **Ghardasi,** where the route leaves the depression of the Wadi el Ba and crosses the desert on a course to SE. for
- 143 **Bel Gauja,** near the head of the **Wadi Faregh.** Here the track turns to the ESE. to the
- 160 Wells of **Ghedir** near **Zawia el Aja,** where it crosses the track from Derna to Aujila (Route 82). The track then continues ESE. to the next wells at
- 204 **Bir Askar.** The next march enters a depression, which it follows for the rest of the route to the
- 229 Wells of **Bir Jibbeni.**
- 255 Wells of **Bir Akroma,** which according to Rohlf's are dry in summer. They are the last before
- 337 **Jaghub.**

ROUTE FROM CYRENAICA TO TRIPOLI

ROUTE 87

BENGHAZI—MARSA EL AWEJA

miles

The coast road follows the telegraph line around the shores of the Great Syrtis. The route begins on the main S. road from Benghazi to the old Turkish governor's palace at Berka, whence there are two routes, of which the shorter continues due S., to

32 **Ghemines**, plantations and fresh-water well. The track goes nearer the shore and passes through patches of cultivation on the E. side of the lagoon of **Karkora**, which is 10 miles long, to the

56 Village of **Karkora**, near which there is some water. The road, which is easy, goes through good pasture to

67 **Sidi el Baggar**, where there is good water and pasture, and past 8 miles of date plantations along the coast.

92 **Akbi**, wells.

118 **El Urin**, wells.

128 **Medfun**, near the delta of Wadi Faregh ; no good water.

136 At **Bir Tabilba** the road passes a well ; at the anchorage of

155 **Marsa Brega** there is another well.

Close to the head of the harbour in good pasture-land is the village of **Gakleba**, with good water.

163 **Bir el Beshir** ; excellent water. Passing some salt marshes the road reaches

174 **Sereighia**, whence a track leads SW. to **Sella**. Thence, crossing a rough desert country with some salt marshes, it enters a fertile stretch with good pasture and some cultivation, near the mouth of **Wadi Kabarit**, passes the ruins of an ancient fort at

miles

200

Kasr el Aleson, passes **Bir Zawia**, where there is drinkable water, traverses a level, barren country past **Kudiya**, with brackish water, and reaches

255

Ras Ben Gahwa, and the harbour of **Marsa Judia**. The track, which from here to Tripoli is practicable for motors, now enters a country somewhat intersected by hills, which approach the shore.

289

Marsa el Aweja. See Route 63.

APPENDIX B

VOCABULARIES

THE system of transliteration of Berber in the vocabulary has avoided over-elaboration, the finer shades of sounds being best learned from natives.

The vowels *a*, *e*, *i*, *o*, and *u* are short, as in Arabic, when between consonants, and long when following a vowel or marked with [˘], e.g. *ā*, *ē*.

The hard *k* is expressed by *q* = ق.

The aspirated *k* or strong *h* by *kh* = خ.

ch is pronounced always as in *church*.

ts is a lisped or sibilant *th*.

gh is Arabic غ.

Arabic ع ('*ain*) is expressed by '.

The verb is given in the simplest form, which is the second pers. sing. of the imperative; (*hab.*) is the form of the habitual or indefinite tense.

The plurals are frequently given in only the first and last syllables which show a change; e.g. *algam*, a horse, *pl.* *il-men* = *il(gam)en*; *tazlagt*, a collar, *pl.* *tiz-gin* = *tiz(lag)in*.

There is considerable difference in vocabulary and pronunciation in different regions and tribes among the Berbers.

K. stands for Kabyle (*qabāil* = tribes), and S. for Siwa dialects, where they are distinguished. The words not so marked are Kabyle.

VOCABULARIES

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
able, to be	potere	qadar	zemer, wai (hab. twai)
I can	posso	aqdir	zemregħ
about (approximately)	circa	taqriban	malisub, qrib
above	sopra	fauq	S. fell. K. sufella. Ghef. fell
abroad	all' estero	fil-bilād al-khārijyah	tamurt n aberrani
abuse (v.)	ingiuriare	shatam, yash-tum	jeder, shetem; (n.) ajder argam
accident	caso		tawarghit (pl. ti—ghiin), tahsart (pl. tikh—rin)
accidentally	per caso	khata'an	akken, s-ukhta
accompany	accompagnare	sāhab,	dukel, eddu (hab.) teddu
I accompany	accompagno	uṣāhib	dukeligh, eddigh
admiral	ammiraglio	amīr al-baħr	reis lebhar
Admiralty	Ammiragliato	Nazārat al-baħriyah	hkum ghef lebhar
adrift	alla deriva	'ā'iman	bad f-errif
advanced	avan guardia	muqaddamat	tasasst uqbel
guard		al-'askar	
aeroplane	areoplano	ṭaiyārah (pl. ṭaiyārāt)	
afloat	a galla	ṭā'if	infraren
aft	poppa	mu'akhhkar	dfir merkab
		as-safinah	
after	dopo	ba'd	S. si. K. dfir; (time) bad, sinakin
afternoon	il dopo pranzo	ba'd az-zuhr	S. 'asr. K. tizua, azuzu
ahead	più avanti	quddām	nu uqbel
alive	vivo	haiy	S. amudder. K. idde- ren, amedder (pl. im— ren)
all	tutto	kull	kull

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
allow (<i>v.</i>)	accordare	ādinfī-	K. serrah anef aden (is it allowed?) wa hlal kera? kelal
allowed, to be	avere il permesso	jāz, yajūz an	
ally	alleato	ḥalīf (<i>pl.</i> ḥu-lafā)	S. ḥabīb. K. ashrik (<i>pl.</i> shurka), askhab, elmithaq
almost	quasi	taqrīban	grib, mahsub
alone	sólo	waḥīdan	walid; (<i>w. pron. suffix</i> , e.g. myself alone) nek walidi
alongside	lungo la sponda	bi-jānib	ghur, stama, artama, gher
already	già	qad (<i>followed by verb</i>)	aya
although	sebbene	ma'a inna	mamma, khas, ghas
altogether	in tutto	jamī'an	luahid, jimia, s-udukli
always	sempre	dā'iman	daim, daiman, dima, kull-as
ammunition	munizione	dhakhīrah	harj
ammunition-wagon	vagoni di munizione	'arabīyat adh-dhakhīrah	taharrust n harj
anchor (<i>n.</i>)	gittar' ancora	marsa (<i>pl.</i> marāsi)	amekhtaf
and	e, ed	wa	d, ed, de
angry, be (<i>v.</i>)	irato	ghadhbān	ghashsh; (<i>adj.</i>) amend, (<i>pl.</i> imdm)
ankle	collo del piede	ka'b (<i>dual.</i> ka'bain)	tawtzit, (<i>pl.</i> tiwtza)
answer (<i>v.</i>)	rispondere	ajāb, yujīb	jaub, efk awal; (<i>n.</i>) juab, jawab
anvil	incudine	sindān	tawnt (<i>pl.</i> tiawnin)
anybody, any one	qualcuno	kullman	iun eg ellan; <i>f.</i> iweth eg ellen
any one whatever	ciascheduno	kullman ma-kān	w in illan; <i>f.</i> thin illan
anywhere	dovunque	fi aiy makān	di kull amkan, kra ausi
appoint	nominare	'aiyan, yu'aiyin	efk errateb, feru

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
approach	avvicinarsi	taqarrab ila, yataqarrab ila	(<i>intrans.</i>) awod, (<i>trans.</i>) qerreb (hab.) tsqerrib
April	Aprile	Nisān	ibrir
Arab	Arabo	'Arabi (<i>pl.</i> 'Arab)	arab (<i>pl.</i> araben)
Arabia	Arabia	Bilād al-'Arab	temurt elarab
arm (<i>n.</i>)	braccio	<u>dhira'</u>	(of body) ighil, (<i>pl.</i> ighallen); (<i>v.</i>) sharrej, (provide with arms) sequi; (arm-pit) tabeq
armed	armato	musallah	aharji
armour	armatura	dir'	harj
arms	armi	asliḥah	harj (<i>pl.</i> slaḥ)
army	esercito	jaish (<i>pl.</i> ju- yūsh)	mhalla (<i>pl.</i> asker)
army corps	corpo d'armata	firqah (<i>pl.</i> fi- raq)	shariqa n asker
arrange	aggiustare	rattab, yurat- tib	gerrez, retteb, feru (hab.) ferru
arrest (<i>v.</i>)	arrestare	waqqaf, yuwaqqif	hekem; (<i>n.</i>) ahkam, agzam
arrive	arrivare	waṣal, yaṣil	awod (hab.) tsawod
artillery	artiglieria	madāfi'	lemdafa
ashes	ceneri	ramād	ighed (<i>pl.</i> ighden)
ashore	a terra	'ala'l-barr	
ask	chiedere, domandare	sa'al, yas'al	sal, suter
I ask	domando	as'al	d'a (S. q'a) tsaligh
thou askest	domandi	tas'al	d'a tsaldh
he asks	domanda	yas'al	d'a itsal
we ask	domandiamo	nas'al	d'a netsal
you ask	domandate	tas'alūn	d'a thetsalem
they ask	domandano	yas'alūn	d'a tsalen
I shall ask	domandero	sa-as'al	ad' saligh
I asked	domandai	sa'alt	saligh
ass	asino	himār (<i>pl.</i> ḥamīr)	K. aghiul (<i>pl.</i> ughial), amerkub (<i>pl.</i> imerku- ben). S. etzet (<i>pl.</i> it- ziten)
astern	a poppa	khalf	ar dfigh

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
at	a, ad	'ala, bi, fi	gher (towards), deg, di, (in)
at least	al meno	'ala'l-aqall	kharsum, elkhathima
at most	al più	'ala'l-akthar	bel hara
at once	subito	fil-hāl	imiren, imirenni
attack (n.)	assalto	hujūm	azdam
attack (v.)	attaccare	hajam 'ala, yahjum 'ala	zedem fell-, (hab.) zed-dem, emmegh, bedu
August	Agosto	Āb	khريف
Austria	Austria	Nimsā	Nimsa
Austrian	Austriaco	Nimsāwi	Nimsawi
autumn	autunno	kharif	khريف
avenge	vendicare	intaqam, yantaqim or akhadh ath-thār, ya'kh-udh ath-thār	err tsar (hab.) tsarra deg-.
axe	scure	fa's (pl. fu'ūs)	ashagur (pl. ishren), amentas (pl. imentias)
axle	sala	miḥwar	
bad	cattivo	radī	dir; (wicked) hraimi (pl. ihien), amshum (pl. imam)
baggage	bagaglio	matā', 'afsh	K. gesh, hawaij (pl. theqla), S. dabash (pl. adbash)
bake	cuocere al forno	khabaz, yakhbiz	subb aghrum; (baker) akhobbaz, (pl. ikhob-bazen)
bale (n.)	balla	'bālah	ashlif, tahmalt (pl. tih-nin)
ballast	zavorra	ṣabūrat al-markab	ijdi
bandage (n.)	benda	rubāṭ	tuffint
bank (of river)	sponda	shāṭi	rif (pl. rīaf)
barley	orzo	sha'ir	timzin
barometer	barometro	mizān at-ṭaqs	sa at n-elhal
barracks	caserma	qishlah	gazarna (pl. -at)
barrel (of a gun)	canna	umbūb	tabthil (pl. tibiin), abthi (pl. ibien)
barricade	barricata	maḥajar	sedd (pl. sdud)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
basket	paniere	safaṭ	(reeds) isni (<i>pl.</i> isnan); (esparto) aqshwal (<i>pl.</i> tiq-in); (hand-b.) ad-ella; (large) aqfu (<i>pl.</i> iqfa)
bathe (<i>v.</i>)	bagnare		begh, ghemes
baths	bagni	ḥammām	ashushef
battalion	battaglione	ṭābūr	abataiun
battery	batteria	baṭariyah	
battle	battaglia	waq'ah	imenghi (<i>pl.</i> imenghan)
battleship	nave da guerra	muḍarra'ah	
bay	baia	khalij	mersa
bayonet	baionetta	ḥarbah	sfud (<i>pl.</i> isfuden)
beach	spiaggia	shāṭi	shott (<i>pl.</i> shtut), iri (<i>pl.</i> iran), rif (<i>pl.</i> riaff)
beacon	faro	fanār, manārah	fnar, tashemwal (<i>pl.</i> tish-tin)
beans	fave	fūl	ibiu (<i>pl.</i> ibaun)
beard	barba	liḥyah	K. and S. tamart (<i>pl.</i> timira)
bearing	sopportare	jihah	tasumta (<i>pl.</i> tisem-tiwen)
beat (<i>v.</i>)	battere	ḍharab, yadh-rib	uut (hab.) kat, terek, jelquged; (beating, defeat) timerziut, (thrashing) ajelqwed
beautiful	bello	jamil	ashebban (<i>pl.</i> ish-nin), ashbih (<i>pl.</i> ish-hen); (beauty) zien, ashbah, awnna
because	perchè	li'anna	imi, aim, ala khatir
bed	letto	farshah	frash (<i>pl.</i> -at), metrah (<i>pl.</i> mtareh); (bedding) timehaft (<i>pl.</i> tim-fin)
bedroom	camera da letto	ḥujrat al-ma-nām	takhamt n azdaw
beef	manzo	lahm baqar	agsum ubeqri, (food) azgar (<i>pl.</i> izgaren)
beer	birra	bīrah	birra
beet	bietola	shawandar	benjor

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
before (time)	avanti-prima	qabl	qbel, uqbel
before (place)	in presenza, davanti	quddām	zdat, ezzat
begin	cominciare	ibtada, yab- tadi	K. and S. bedu ; (begin- ning) K. and S. ibda, bdu
behind	dietro	warā, 'aqab	dfir, temendefirt ; (from b.)—zdefir
believe	credere	i'taqad, ya'taqid	amen, (think) ghil ; be- lief (trust) aman, tukil
below	sotto	taḥt	eddaw, (<i>abs.</i>) seddaw, iukser
bend (one- self) (<i>v.</i>)	curvare, piegare	ḥana, yaḥni	K. quwes, siknu (<i>hab.</i> skennu). S. qus, tiawji
berth	cuccetta	firāsh	ashush
besiege	assediare	ḥāsar, yuḥāsir	hebes
betray (<i>v.</i>)	tradire	ghadar, yagħdir	K. kheda (<i>hab.</i>) khedda, gheder; S. kheda, akhda
better, best	meglio, migliore	aḥsan	khir, akhir
between	fra, tra	bain	ger, gar, (with <i>pron.</i>) buaigar
beyond	di là, oltre	warā	akin, sihin
big	grande	kabīr	amoqran (<i>pl.</i> im-nen)
bigger, biggest	più grande	akbar	agwar, meqor fell, (<i>com- par.</i>) ai amoqran,— fell—; (<i>biggest</i>) ai amoqran ghef—
bill (account)	conto	ḥisāb	hsab
billet	alloggiare	askan, yuskin	tanezdurt
bird	uccello	ṭair (<i>pl.</i> ṭuyūr)	K. afrukh (<i>pl.</i> ifrakḥ), tir (<i>pl.</i> diur). S. aṣṭeṭ, akṭeṭ (<i>pl.</i> iktat). (<i>Zen- aga</i>) aghdud (<i>pl.</i> ngda- den)
bit	morso	lijām	(mule) srima (<i>pl.</i> -at); (horse) algam (<i>pl.</i> il- men); (<i>gen.</i>) agelzim (<i>pl.</i> igelziam)
bit (piece)	pezzo	qiṭ'ah	amur (<i>pl.</i> imuren)
bitter	amaro	murr	K. amerregħan, amer- zagu. S. atzai

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
black	nero	aswad	aberkān (<i>pl.</i> ibnen), berrik (<i>pl.</i> berrikit)
blacksmith	fabbro	ḥaddād	ahaddad (<i>pl.</i> ihdin)
blame (<i>v.</i>)	incolpare, biasimare	lām, yalūm <i>or</i> ḥamm, ya- ḥumm	lezem ; (<i>n.</i>) alzam, akra
blanket	coltre	liḥāf	tidli (<i>pl.</i> -iwin) ; (bed) tafersadit (<i>pl.</i> tifersa- diin)
bleed (<i>intrans.</i>)	sanguinare	nazaf, yanzif	efk idammen, (<i>trans.</i>) zelu
blind (<i>v.</i>)	cieco	a'ma (<i>pl.</i> 'umyān)	sderghel, (<i>adj.</i>) ader- ghal (<i>pl.</i> id-len)
blockade (<i>n.</i>)	blocco	ḥiṣār	ahsar
blood	sangue	damm	idim (<i>pl.</i> idamen)
blow (<i>v.</i>)	soffiare	habb, yahubb	bunia (<i>pl.</i> buniat) ; (blow out) shuf, sud
blow (<i>n.</i>)	colpo	dharbah	tiita (<i>pl.</i> tiitiwen)
blue	azzurro	azraq	azigzaw (<i>pl.</i> iz-wen) ; (dark b.) ademdam
blunt (<i>v.</i>)	spuntato	ghair ḥadd	nefu
boat	battello, barca	balam, qārib	merkeb
body	corpo	jism (<i>pl.</i> aj- sām)	K. ainnat (<i>pl.</i> -tin) ; (man) jtha (<i>pl.</i> jthat), jsed (<i>pl.</i> jsad). S. ak- lim (<i>pl.</i> iklimen)
boil (<i>trans.</i>)	bollire	aghla, yughli <i>or</i> fauwar, yu- fauwir	<i>trans.</i> s-rekem (hab.) rek- kem
boil (<i>intrans.</i>)	cuocere	ghala, yaghli <i>or</i> fār, yafūr	rekem, aizeg (in liquid) ; awel
boiled rice	riso cotto	ruzz maṭbūkh	ruzzitse rekeman
boiler	caldaja	fauwārah	tanjera
bone	osso	'azm (<i>pl.</i> 'izām)	K. and S. ighs (<i>pl.</i> ighsan)
book	libro	kitāb (<i>pl.</i> ku- tub)	taktabt (<i>pl.</i> tikbin), ak- tab (<i>pl.</i> ktub)
boot	stivale	jazmah	arkas (<i>pl.</i> irsen), asetbad (<i>pl.</i> isden)
boot-lace	laccio	rabāṭat al- jazmah	tizikert (<i>pl.</i> tizukar)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
bottle	bottiglia	qārūrah (<i>pl.</i> qawārīr)	taqrath (<i>pl.</i> tiqtin)
bottom	fondo	qa'r	(of bag, &c.), aderbuz (<i>pl.</i> id-zen), qa āa (<i>pl.</i> -an); (from top to bot- tom) selkema
bow (of ship)	prua	muqaddam al- markab	(weapon) qus (<i>pl.</i> aq- was); (incline, <i>v.</i>) kenu, baia
bowels	intestini	maṣārīn	aǧhed (<i>pl.</i> iǧeghdan)
box	scatola	ṣundūq (<i>pl.</i> ṣanādiq)	tasenduqt (<i>pl.</i> tis-qin)
boy	ragazzo	walad (<i>pl.</i> au- lād)	aqshish (<i>pl.</i> arrash); (little) agrud (<i>pl.</i> igur- dan), agruj (<i>pl.</i> ig-jen)
brackish	salata	māliḥ	amehan (<i>pl.</i> im-nen)
brave	coraggioso	shujā'	afahli (<i>pl.</i> ifi-en), fhel (<i>pl.</i> fhul), jid (<i>pl.</i> juad)
brazier	braciere	maṇqalah	irrij (<i>pl.</i> -en), awnar (<i>pl.</i> iu-ren)
bread	pane	khubz	aghrum, (fresh) aghrum iakhma, (leavened) tamtunt, (European) akhubiz (<i>pl.</i> ikh-zen)
break	rompere	kassar, yukas- sir	erz (hab. teruzu), a rope, &c.) seghres
breakfast	colazione	fuṭūr	ftur (<i>pl.</i> -at)
breech (of gun)	culatta del fucile	maḍkhkar al- bunduqīyah	(in wall, &c.) fetek (<i>v.</i>) aftaq; (gen.) fteq (<i>pl.</i> ftuq)
breeze	venticello	nasīm	abahri
brick (burnt)	mattone cotto	ṭābūqah	K. talajurt (<i>pl.</i> tilrin). S. zenad
brick (unburnt)	mattone crudo	libn	tala jurt (<i>pl.</i> til-ren)
bridge	ponte	qaṇṭarah (<i>pl.</i> qaṇāṭīr) or jīsr (<i>pl.</i> jusūr)	tiqantart (<i>pl.</i> tiqantier)
bridge (of ship)	ponte d'una nave	jīsr al-markab	
bridle (<i>v.</i>)	imbrigliare	aljam, yuljim	(<i>n.</i>) aljam (<i>pl.</i> ilmen); (mule) tashkimt (<i>pl.</i> tishmin)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
brigade	brigata	liwā	bengad
bright	lucente	lāmi', mudhī	(v. 3 p.) itshasha, (<i>adj.</i>) imshasha (<i>pl.</i> im-in)
bring	portare	ahdhar, yuh- dhir	awi (hab. tsawi)
broad	largo	'aridh	ahrawan (<i>pl.</i> ih-nen), ausaan (<i>pl.</i> iu-nen)
broadside	il fianco d'un vascello	'urdh	ujh (<i>pl.</i>) ujuh
broken	spezzato	mukassar, munkasir	be b, v. user
brother	fratello	akh (<i>pl.</i> ikh- wān)	K. egma (<i>pl.</i> atmaten) S. amma
brown	bruno	asmar	aras (<i>pl.</i> -sen)
brush	spazzola	furshah	shita (<i>pl.</i> -at)
bucket	secchia	dalw	abidun (<i>pl.</i> ib-nen)
buffalo (male)	buffalo	jāmūs	azgar lekhla (<i>pl.</i> izgaren)
buffalo (female)	buffalo		
bug	cimice	baqq	beqq (<i>pl.</i> -at)
bugle	corneta	būq	buq (<i>pl.</i> buaq)
build	fabbricare	bana, yabni	benu, sekker
bull	toro	thaur	K. ajmi (<i>pl.</i> ia-yen). S. funas (<i>pl.</i> ifunassen)
bullet	palla	raṣāṣah (<i>pl.</i> raṣāṣ)	tarsast (<i>pl.</i> tirsin)
bullock	bue	thaur makhṣi	aramd (<i>pl.</i> ir-len)
buoy	salvagenti	shamandarah	
bureau-de- change	cambia valute	dukkān aṣ-ṣar- rāf	biro saraf
burn (<i>trans.</i>)	bruciare	aḥraq, yuhriq	sergh (hab. serghi)
burn (<i>intrans.</i>)	bruciarsi	ishta'al, yash- ta'il	shāāl (hab. tssh'awal) sha'al
bury	seppellire	dafan, yadfun	remel; (body) metel
bush	cespuglio	siyāj, 'irq	tizgi, neqla (<i>pl.</i> -at); (bush-fire) tims n hish
busy	occupato	mashghūl	meshghul (<i>pl.</i> -in); am- eshghul; (I am b.) ur stufugh ara
but	ma	walākin	lamana, lakin, walakin
butter	burro	zibdah	(fresh) udi
button	bottone	zirr (<i>pl.</i> azrār)	taqfelt (<i>pl.</i> tiq-lin)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
buy	comprare	ishtara, yash-tari	agh (hab.) tsagh; (food) nefeq; (buyer) shari (<i>pl.</i> isharien), ameshtar (<i>pl.</i> im-ren)
by (near)	presso	qarīb min, 'ind	si (e.g. pass by), s. seg. (by means of)
cabin	cabina	qamārah	takhamt
cable	gomena corda	silk (<i>pl.</i> sulūk)	amrar (<i>pl.</i> im-ren)
cake	pasta dolce	ka'k	tasfenjet (<i>pl.</i> tis-tin)
calf	vitello	'ijl	K. agenduz (<i>pl.</i> igundias). S. aghy (<i>fem.</i> agh)
call	chiamare	nāda, yunādi	siwel, lagh (hab. tslaghi); (call to one) qeddem; (name) semmi
call (cry out)	gridare	ṣāh, yaṣīh	'agged (hab. ts'aggid), sugh
calm (<i>n.</i>)	calma	huduw	hna, hedna
calm (<i>adj.</i>)	calmo	hādi	mhenni (<i>pl.</i> -ien); (<i>v. trans.</i>) shenni
camel	cammello	jamal	K. and S. alghum (<i>pl.</i> ilughman)
camel-driver	colui che guida il cammello	jammāl	amenhar g-ilughman
camel (riding)	andare a cavallo a un cammello	hajin	rekeb s-ufella alghum
camp	campo	mu'askar, mukhaiyam	(soldiers) mhalla (<i>pl.</i> -at); (<i>v.</i>) ers, sers lemhalla
can	potere	aqdir	zemer, wai
I can	posso		zemmerigh
thou canst	tu puoi	taqdir	th-zemmer-dh
he can	egli può	yaqdir	izemmer (<i>fem.</i> thezemer)
we can	possiamo	naqdir	nezemmer
you can	potete	taqdirūn	thezemmerenth
they can	possono	yaqdirūn	zemmeren <i>fem.</i> -ent
I cannot	io non posso	mā aqdir	ur zemregħ ara
can you ?	potete ?	hal taqdirūn	at thezemmerem kera ?
canst thou ?	puoi ?	hal taqdir	at thezemmerdh kera ?
canal	canale	tur'ah	qadus (<i>pl.</i> qwades), targa (<i>pl.</i> tirgwa)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
canal (large irrigation)	canale d'irrigazione		qadus meqor
canal (small irrigation)	canaletto d'irrigazione		qadus amzian
candle	candela	shama' (<i>pl.</i> shumū')	tashemwat (<i>pl.</i> tishemwain)
canoe	barchetta	zauraq	taf lukt (<i>pl.</i> if-kin)
canter	piccolo galoppo	hadhab, yah-dhib	
canvas	canavaccio	jimfās	mlef
cap	berretta	ṭarbūsh	taberret (<i>pl.</i> tibdin)
cape (point of land)	capo	ra's jabal	ras (<i>pl.</i> risan)
capstan	argano	daulāb al-ḥabl	taredant
captain (of ship)	capitano di marina	qabṭān or ra'is al-markab	aqabtan (<i>n.</i>) markab
captain (military)	capitano	yūzbāshi	aqabtan
captive	prigioniero	asīr (<i>pl.</i> usarā)	amerhun (<i>pl.</i> im-nen), isir (<i>pl.</i> isra)
capture (men)	far prigioniero	assar, yu'assir	serhen; (<i>n.</i>) ghnima, tuttefa
capture (place)	catturare	qabadh 'ala, yaqbīdh 'ala	ettef (<i>hab.</i> tsattaf)
caravan	carovana	qāfilah	gafla' (<i>pl.</i> -at)
careful	prudente	mutaḥadhdhr	hader (<i>pl.</i> -in)
cargo	carico	ḥiml	amahsen (<i>pl.</i> im-nen)
carpenter	falegname	najjār	anejjar (<i>pl.</i> in-ren)
carpet	tappeto	bisāṭ	K. tazerbit (<i>pl.</i> tizerbiage). S. lebte
carry	portare	ḥamal, yaḥmil	refed, awi
cart	carro	'arabīyat an-naql	takarrast (<i>pl.</i> tik-sin)
cartridge	cartuccia	khartūshah (<i>pl.</i> khartūsh)	akartush (<i>pl.</i> ik-shen), taqerdast (<i>pl.</i> tiq-sin)
cart-track	via	maslak (<i>pl.</i> masālik)	abrid n-takarrest
castle	castello	qaṣr (<i>pl.</i> quṣūr)	borj (<i>pl.</i> burj)
cat	gatto	hīrr (<i>fem.</i> hirrah)	K. amshish (<i>pl.</i> imshash). S. yatous (<i>fem.</i> tyatust)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
catch	acchiappare	qabadh, yaq-bidh	suq'a (hab.) suqi'a, leqef, ettef
cattle	bestiame	mawāshi	bhaim, tiquday
cavalry	cavalleria	khail, khaiyālah	khil (el), imnaien
cave	grotta	ghār	K. ghar (pl. ghiran), ifri (pl. ifriun). S. tamghart
cellar	cantina	sirdāb (pl. sa-rādīb)	tasreft
cement	cemento	kils	jibs
centre	centro	markaz	alemmas (pl. ilsen)
certainly	certo	yaqīn	tidet, bessali
chain	catena	silsilah, zinjīr	selsela (pl. slasel); (line) azlag (pl. iz-gen)
chair	sedia	kursi	kursi (pl. krasi)
channel	canale	tur'ah	khenga (pl. -at)
chart	carta da navigazione	kharīṭah	karta
cheap	a buon mercato	rakhīṣ	(be c.) rekhes (hab. tserkhis)
cheek	guancia	khadd	amaig (pl. imnaig), hanek (pl. hnak)
cheerful	vivace allegro	bashshāsh, masrūr	(be c. vb.) ferah
cheese	cacio	jubn	aguglu (pl. ig-ten)
chicken	pollo	dujājah	afrukh n taiazit (pl. ifrakh), itshutshu (pl. -wen)
chief	capo	ra'īs, shaikh	aqarru (pl. iqurra), am-raii (pl. im-ien)
children	ragazzi	aulād, aṭfāl	(child) aqshish (pl. ar-rash); fem. taqshist (pl. taqshishin), aqrur (pl. uqrar)
chin	mento	dhaqan	tamart (pl. timira)
chisel	cesello	mibra	amenghar (pl. im-ghen)
choose	scegliere	ikhtār, yakh-tār	khiier, khetir, feren
Christmas	Natale	'īd al-mīlād	
church	chiesa	kanīṣah	kanisa (pl. -at)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
circle	circolo	dā'irah	dur (<i>pl.</i> duar), asarag (<i>pl.</i> isurag)
clan	tribù	qabīlah (<i>pl.</i> qabā'il) or 'ashīrah (<i>pl.</i> 'ashā'ir)	'arsh (<i>pl.</i> 'arash)
clean (<i>adj.</i>)	pulito	naẓīf	azedgan (<i>pl.</i> iz-nen)
clean (<i>v.</i>)	pulire	naẓẓaf, yunaẓ- zīf	zizdeg, sefed ; (wash- ing) sired
clear	limpido	ṣāfi	K. ifejjej, zedig ; (water, &c.) aman izdigen. S. iraka
cliff	rupe	jurf (<i>pl.</i> jur- fān)	ashharraruf (<i>pl.</i> ishhar- raraf)
clock	orologio	sā'ah	sa'at
close (<i>v.</i>)	chiudere	sadd, yasudd	sergel, err, seker
cloud	nuvola	ghaim (<i>pl.</i> ghu- yūm)	asigna ; (be cloudy) signu
coal	carbon fossile	fahm hajari	(wood) fham
coast	costa	sāhil (<i>pl.</i> sawā- hil)	shott (<i>pl.</i> shtut)
coffee	caffè	qahwah	qahwa
cold (in head)	raffredore di testa	zūkām	abahri
cold (in chest)	raffredore petto	di su'al	ahurhur
cold (temperature)	freddo	bard	tesmed, asemmid (<i>pl.</i> isden) S. asqi
cold (<i>adj.</i>)	freddo	bārid	asemmad
collar	colletto	yāqah, tauq	tazdcra (<i>pl.</i> tizdermoin), tazlagt (<i>pl.</i> tiz-gin)
collect	riunire	jama', yajma'	jema, leqed
collision	scontro	muṣādamah	amniqer
colonel	colonnello	mīrālai	koninir
colour	colore	laun (<i>pl.</i> al- wān)	sifa
colours (flags)	bandiera	a'lām	aqidun (<i>pl.</i> iq-nen)
colt	puledro	muhr	ajd'aun (<i>pl.</i> ijd'aan)
come	venire	jā, yajī	as(-ed), ruh(-ed) ; (come !) iya (<i>pl.</i> iyaw)
comfortable	comodo	mustarīḥ	sehel (<i>vb.</i> be c.)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
command	comando	amr (<i>pl.</i> awā-mir)	amer, wasi
commander	comandante	qamandān	akmandan (<i>pl.</i> kmandanat)
commerce	commercio	tijārah	K. tjara. S. jenz
commission	impiego (nell'esercito)	wazīfah	ijāza
commodore	commodoro	ra'is uṣṭūl	
communication	comunicazione	muwāṣalah	khbar, timlin
companion	compagno	sāhib (<i>pl.</i> aṣ-hāb) or rafiḳ (<i>pl.</i> rufaḳā)	amdukul (<i>pl.</i> imdukul), ashrik (<i>pl.</i> ish-ken)
company	compagnia	jamā'ah	jma'a, tarbat (<i>pl.</i> ter-baa) (in c.) stadukli
company (military)	compagnia	bulūk	jma'a
compass	compasso	quṭb	mizan
N.	nord	shamāl	dahra, juf
NE.	nordest	shamāl sharqi	
E.	oriente	sharq	sherq
SE.	sudest	janūb sharqi	
S.	sud	janūb	qebila
SW.	sudovest	janūb gharbi	
W.	occidente	gharb	gherb
NW.	nordovest	shamāl gharbi	
complain	lagnarsi	shaka, yashku	shaisef; (c. of) shetki ghef-
condition (state)	stato	hāl (<i>pl.</i> aḥwāl)	tagunit (<i>pl.</i> tighunatin)
condition (stipulation)	condizione	sharṭ (<i>pl.</i> shurūṭ)	shert (<i>pl.</i> shrut); (on c. that) s, si
confess	confessare	aqarr, yuqirr or i'taraf, ya'tarif	qirr (hab. tqirri)
Constantinople	Costantinopoli	Istāmbūl	Istambul
content	piacere	qānī'	(be content) K. ferah, with, is-is-. S. yuhazah
contraband	di contrabbando	mamnū'	
convenient	comodo	munāsib	sehel; (conveniently, <i>adv.</i>) s-essehala

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
convoy (n.)	convoglio	ghafar, khafārah	rafqa, msaāfa
cook (n.)	cuoco	ṭabbākh	K. adebbakh. S. wan itsuma
cook (v.)	cuocere	ṭabakh, yaṭ- bukh	K. debbekh, subb. S. sann
cool	fresco	bārid	semed
copy (n.)	copia	nuskah (pl. nusakh)	neskha (pl. nsakhi)
copy (v.)	copiare	nasakh, yan- sakh	nesekh; (imitate) aaned
cord	corda	ḥabl	K. (fine) asbailu; (es- parto) asekkin; (strong) aziker (pl. izukar); (of skin) mejbid; (very strong) amrer (pl. im ren); (for animals) rebg (pl. rbug). S. tasmāt
cork (n.)	turacciolo	sidādah (stop- per), fillin (substance)	(stopper) tadimt (pl. tidima), aghummu (pl. ighuman); (corkscrew) tibernint (pl. tib-nin)
cork (v.)	sughero		
corn (cereal)	grano	ḥubūb	(Indian) akubal or akbal
corporal	caporale	ōnbāshi	
cotton	cotone	quṭn	K. qten. S. tabdokht
count (v.)	contare	ḥasab, yaḥsub	K. neseb. S. ahsab or hsab
country	campagna	bilād	tamurt (pl. timura)
courageous	valoroso	shujā'	fhel (pl. fhul)
course	corso	jihah	(of course!) malum! madured! bessahh!
court martial	tribunale mili- tare	ḥukm 'askari	
cover (v.)	coprire	ghaṭṭa, yug- haṭṭi	ghumm, del
cover, take	coprirsi, defilarsi, ripararsi	tawāra, yata- wāra or ikhtafa, yakhtafi	K. ghumm, del; (a jar, &c.) gheti. S. ghda (pl. -at), aghummu (pl. ighumman)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
cow	vacca	baqarah	K. and S. tafunast (<i>pl.</i> tistan)
cowardly (<i>adj.</i>)	vigliacco	jabbān	khawaf (<i>pl.</i> ikh fen)
creek	insenatura	khalīj	mersa
crew	equippagio	mallāḥah	rias
crooked	storto	a'waj	imquwes, aquf
crops	raccolto	maḥṣūlāt	ghella, tafellaht ; (good c.) saba
crowd (<i>n.</i>)	folla	ziḥām	ghashi, zham
cruel	crudele	qāsi, ṣārim	ameqsuh (<i>pl.</i> unek-suhen), ametruk (<i>pl.</i> unetruken)
cruise (<i>n.</i>)	crociata	safar	sfer
cruiser	incrociatore	ṭarrād	
cultivation	coltivazione	zirā'ah, thah	hirā- tafellaht ghella
(harvest)		finjān	
cup	tazza		afenjal (<i>pl.</i> ifengalen), tas (<i>pl.</i> tisen) ; (tin) tashabshaqt (<i>pl.</i> ushabshaqin)
current	corrente	jarayān	azrab
custom-house	dogana	gumruk	amkwas (<i>pl.</i> imkwasen), gumrakji
cut	tagliere	matar yamtur	K. gezem (<i>hab.</i>) gezzem. S. antaf
daily	ogni giorno	yaumi	mkull as, mkull b-was
dam	chiusa	sadd	sadd (<i>pl.</i> sdud)
damage	scapito	khisārah	takhsart, mderra
damp	umidità	raṭb	tshullekh, redeb, bezeg ; (<i>n.</i>) abzag, azzug
dangerous	pericoloso	mukhtir	deg-s el khauf
dark	oscuro	muzlim	(darkness) aberkan (<i>pl.</i> iberkenen), berrik (<i>pl.</i> berrikit); (d. colour) ad-emdam (<i>pl.</i> idimdemen)
daughter	figlia	bint (<i>pl.</i> banāt)	K. illi (<i>pl.</i> issi). S. telesha
day	giorno	yaum (<i>pl.</i> aiyām)	tafat, ayal ; (day's march) ibwas gubrid
dead	morto	maiyyit	megti (<i>pl.</i> megtin and müet)
deaf	sordo	aṭrash	azzug (<i>pl.</i> iazugen) ; (be d.) azzeg

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<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
dear (person)	caro	'azīz	aziz
dear (price)	caro	ghālī	ghelaye (<i>pl.</i> ghlait), irgh- laye (<i>pl.</i> tharghlaye)
death	morte	maut	K. mut <i>and</i> muth. S. amuti
deceive	deludere	khada', yakh- da'	ghurr (hab. tsghurru), gheled
December	Dicembre	Kānūn al-au- wal	Dijember
deck	ponte	sath	sdah
declaration (of war)	dichiarazione (di guerra)	i'lān al-ḥarb	ākshaf, timlin
deep	profondo	'amīq	(in ground) algaian (<i>pl.</i> ilqaianen); (be d.) lqaye. S. nāzil
deer	cervo	ghazāl	izerzer (<i>pl.</i> -in)
defeat (<i>n.</i>)	sconfitta	inkisār, hazī- mah	timerziut
defeat (<i>v.</i>)	sconfiggere	kasar, yaksur	uza (hab. tsuzza), gheleb
defend	difendere	dāfa', yudāfi'	semna (hab. semenna), mena
deficiency	deficienza	'adam kifāyah, nuqṣān	anqas
dense	denso	mushtabik	azuran (<i>pl.</i> iz—en)
depreciation (of troops, guns, &c.)	svilimento, — abbassamento (di truppe e cannoni)	khalal, nuqṣān	ahallel
describe	descrivere	waṣaf, yaṣif	usef (hab.) tsusaif
desert (<i>n.</i>)	deserto	barīyah, ṣaḥrā	amkan-ikhlan; (great d.) skhra
desert (<i>v.</i>)	abbandonare	tarak, yatrūk <i>or</i> harab, yah- rub	ejj (hab. tsajja)
deserter	disertore	munhazim, hārib	amruel (<i>pl.</i> im—lin)
despatch (<i>n.</i>)	dispaccio	risālah	tabrat (<i>pl.</i> tibratin)
destroy	distruggere	hadam, yah- dim <i>or</i> dam- mar, yudam- mir	sekhser, senger (hab.) sengar

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
determination	determinazione	jazm, taṣmīn	agzam, aqda'a
diarrhoea	diarrea	is-hāl	ahluli, busira
die	morire	māt, yamūt	emmet (hab. tsmetsat)
difficult	difficile	ṣa'b	iwar (3 p. s.), iwaren (part), isab (3 p. s.); (difficulty) asr, atab
dig	scavare	ḥafar, yaḥfir	neqesh (hab.) neqqesh
dinner	pranzo	ṭa'ām, 'ashā	imikli (pl. -awn)
dirty	sporco	wasikh	amafun, fased; (be d.) ames
disappear	sparire	ghāb, 'yaghīb	ghab, ruh; (disappearance) gheiba, ghiba
discover	scoprire	kashaf, yakshif	af (hab. tsaf), sufegh
disease	malattia,	maradh, 'illah	atan (pl. idanen), hlak; (be diseased) aden, neterr
dishonest	disonesto	khā'in, makkār	amqabuh (pl. imqubah); (dishonesty) khshanna, qbih
disobedient	disubbidiente	'aṣi	asu, khalef; (disobedience) asu
district	distretto	nāhiyah (pl. nawāḥi)	K. amkan (pl. imukan). S. ankan
diver	palombaro	ghauwās	aghittas
divide	dividere	qassam, yuqassim	fereq (hab.) ferreq, bedu, fesel
division	divisione	firqah (pl. firaq)	afrq, btu
do	fare	fa'al, yaf'al	uqem, khedem. 'Don't' expr. by ur- (verb) -ara
dock	bacino	ḥaudh al-marākib	asarij
dockyard	arsenale del porto	mīnā li-ta'mīr as-sufun	aguni g-usarij
doctor	dottore	ṭabīb, ḥakīm	tbib (pl. -at)
dog	cane	kalb (pl. kilāb)	K. aqjun (pl. iqjan). S. aqurzini
donkey	asino	ḥimār (pl. ḥamīr)	K. aghiul (pl. nghial), amerkub (pl. imerkuben). S. etzeyt (fem. tizet)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
door	porta	bāb (<i>pl.</i> ab-wāb)	tabburt (<i>pl.</i> tibbura)
doubt (<i>v.</i>)	dubitare	shakk, ya-shukk	shukk (<i>hab.</i> tshukku)
draw (<i>map, &c.</i>)	disegnare	rasam, yarsum	suwer, sedher; (<i>draw</i> water, &c.) agum, effi
draw up (document)	mettere in iscritto	rasam, yarsum or katab, yak- tub	ullef, stenii
draw up (<i>line of</i> troops)	schieramento	şaff, yaşuff	seffef (<i>hab.</i> tseffaf)
dress (<i>v.</i>)	vestire	labis, yalbas	(<i>trans.</i>) sels; (<i>intrans.</i>) els; (<i>n.</i>) lebsa (<i>pl.</i> lbas)
dress (a wound)	medicare	rabat, yarbut	dawi
drift (<i>v.</i>)	ammassare, ammucchiare	ţafa, yaţfu	nejma
drink (<i>n.</i>)	bevanda	mashrūb	tisit
drink (<i>v.</i>)	bere	sharib, yash- rab	su (<i>hab.</i> tes and ses)
drive (<i>trans.</i>)	guidare	sāq, yasūq	seksheṃ; (<i>animals</i>) neher, dehem; (<i>d. out</i>) sufegh; (<i>d. away</i>) sufegh, deger
drown (<i>trans.</i>)	annegare, affogare	aghraq, yugh- riq	serreq, sehluli
drown (<i>intrans.</i>)	annegarsi, affogarsi	ghariq, yagh- raq	ghereq
dry (<i>v.</i>)	asciugare	nashshaf, yu- nashshif	(wood, skin, linen, &c.) sgher; (<i>spread to dry</i>) summet ad igor; (<i>be-</i> come dry) gor (<i>hab.</i>) tsghar
dry (<i>adj.</i>)	asciutto	yābis	iqoren, aqoran; (<i>ground</i>) ughurar
duck	anitra	baţţah	abrek (<i>pl.</i> ib—en)
dust	polvere	ghubār	aghbar; (<i>make d.</i>) sghubber. S. ijedi
dynamite	dinamite	dīnāmīt	
dysentery	dissenteria	is-hāl ad- damm	izmi

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
ear	orecchio	udhn (<i>dual.</i> udhnain)	K. amzugh (<i>pl.</i> im—en). S. tamzakht
early	di buon' ora	bākiran	zik
earthen	di terra	turābi, ṭīni	afkhar
earthwork	lavoro di terra	mitrās	sdah (<i>pl.</i> sduh)
east	oriente	sharq	sherq
Easter	Pasqua	'Id al-faṣḥ	
eastern	orientale	sharqi	n-sherq
easy	facile	sahl	sehel; (<i>easily, adv.</i>) s—essehala
eat	mangiare	akal, ya'kul	etsh (<i>hab.</i> tets), (<i>argot</i>) tegun
egg	uovo	baidhah (<i>pl.</i> baidh)	K. tamellalt (<i>pl.</i> tim— lin). S. tabtut (<i>pl.</i> tebetwen)
Egypt	Egitto	Maṣr	Masr
Egyptian	Egiziano	Maṣri	Amasri (<i>pl.</i> Im—ien)
embark (<i>intrans.</i>)	imbarcare	rakab (yar- kub) fi safi- nah	rekek g-elbabur
embarkation	imbarcazione	rukūb	rkub g-elbabur
employ (thing)	adoperare	shaghghal yushaghghil	stenfa, sekhdem
employ (men)	impiegare	ista'mal, yas- ta'mil	sekhdem
empty (v.)	vuotare	farragh, yu- farrigh	(be v.) ilem (<i>pl.</i> ilmaun)
empty (adj.)	vuoto	fārigh	ilem (<i>pl.</i> ilmawn), <i>fem.</i> telemt (<i>pl.</i> tilmawin)
encamp	accamparsi	khaiyam, yukhaiyim	ers; (<i>for night</i>) ens
encampment (of nomads)	accampamento (di nomadi)	khiyām, mu- khaiyam	mhalla (<i>pl.</i> -at)
end (<i>trans.</i>)	finire	azāl, yuzīl, or atamm, yutimm	fuk (<i>hab.</i>) tsfukku; (<i>n.</i>) fna, fnu, kmal
endure	sopportare	ṣabar 'ala, yaṣbir 'ala	(tolerate) seber; (<i>con-</i> <i>tinue</i>) aiwod
engine	macchina	ālah	nawra (<i>pl.</i> -at), tana wrt (<i>pl.</i> tinawrin)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
engineer	ingegneri	muhandisîn	muhandis, mallem elma-shinat
England	Inghilterra	Inkiltarah	tamurt lengaliz
Englishman	Inglese	Inklizi	Englizi (<i>pl.</i> Engaliz)
enough	sufficiente, basta	bil-kifāyah	daia, barka ; (it's enough) ikuma
ensign (flag)	bandiera	'alam (<i>pl.</i> a'lām), liwā (<i>pl.</i> alwi-yah)	aqidun
envelope	busta	zarf	ajughlal (<i>pl.</i> ijughlilon)
equip	fornire	jāhhaz, yujah-hiz	harrej ; (equipment) harj
err	sbagliare	ghaliṭ, yagh-ṭ laṭ, or akhta, yukhta	gheled, āmel
escape	scappare	harab, yahrub (<i>v.</i>)	men'a, selek ; (<i>n.</i>) amna, asellek
escort (<i>n.</i>)	scorta	hāris, khafārah	rafqa, msaafa
escort (<i>v.</i>)	scortare	haras, yahrus	rafeq (hab. tsrafaq)
evacuate	evacuare	khalla, yu-khalli, or far-ragh, yufarrigh	effegh seg seg-
evening	sera	masā	tamdit, meddit
ever	sempre	daiman	daim, kull-as
every	ogni	kull	kull
everything	ogni cosa	kull shai	kullshi, kra
everywhere	da per tutto	fi kull makān	di kullumkan
examine	verificare,	fahās, yafhās	nadi fell, siked ; (be examined) mnadi ;
(facts, <i>v.</i>)	esaminare	imtahan, yamtaḥin (a candidate)	(examination) anadi, asenteqed
except	eccetto	illā	hasha, hashi
excuse	scusa	'adhar, ya'dhir	K. sefses, sekhfef, ader, sebba. S. la'ader
exercise	esercizio	tamrîn	sehfed (hab.) sehfad hefed
explain	spiegare	fassar, yufassir or baiyan, yubaiyin	sefhem, fesser, sefrez ; (explanation) asefhem, tafsir, askin

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
explode (<i>trans.</i>)	explodere	fajjar, yufajjir	filleq, erz
explode (<i>intrans.</i>)	explodere	infajar, yan-fajir	felleq
explosion	esplosione	infijār	aterdaq
export			K. shega. S. ashegga
exposed	esposto	ma'rūdh	asedher
ewe	pecora	na'jah	tikhsi (<i>pl.</i> -ulli)
eye	occhio	'ain (<i>dual.</i> 'ainain, <i>pl.</i> 'uyūn)	K. tit (<i>pl.</i> allen). S. tat. Zen. tud
face	faccia	wajh (<i>pl.</i> wujūh)	udm (<i>pl.</i> -awn)
faithful	fedele	amīn, ṣādiq	mumen (<i>pl.</i> -nin)
fall (<i>v.</i>)	cadere	saqat, yasqut	ghili
family	famiglia	'ā'ilah	K. washul, atukham; (parentage) adrum, iag-galen. S. l'aylet
famous	famoso	mashhūr	ameshhur (<i>pl.</i> imeshuren); (be f.) sheher
fanatical	fanatico	muta'aṣṣib	amnamer
far	lontano	ba'id	baid; (to be far) b'ad; (far off) b'aid; (from far) sb'aid
farm	podere	mazra'ah	hawsh, azib (<i>pl.</i> azaib); (farmer) azaibi (<i>pl.</i> iazabiin); (tenant) amamti (<i>pl.</i> imamlien)
farrier	maniscalco	na'āl	ahaddad (<i>pl.</i> ih—den)
fat	grasso	samīn	K. aqibbwan (<i>pl.</i> iqebb-wannen), awfaian (<i>pl.</i> iwfaianen); (of food) tasemt. S. elsemn
father	padre	ab	K. baba (<i>pl.</i> ibabaten). S. abba
fear (<i>n.</i>)	paura	khawf, mak-hāfa-t	tugdi, khuf, dhisha, fqa
fear (<i>v.</i>)	aver paura	khāf, yakhif faza' yafza'	awgwad; (fearful, <i>adj.</i>) isergigin, isdehshen
February	Febbrajo	Shubāt	Furar

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
ferry (<i>n.</i>)	traghetto	ma'bar	abrid (<i>pl.</i> iberdan)
fetch	andare a prendere	jā bi-, yajī bi-	awi (<i>hab.</i>) tsawi; (<i>f.</i> water) effi
fever	febbre	humma	K. tawla. S. tazaqt
field	campo	haql, mazra'ah	tamurt (<i>pl.</i> timura)
fight (<i>v.</i>)	combattere	qātal, yuqātil	ennugh, mabbar, minwat
fight (<i>n.</i>)	combattimento	qitāl	amenghi (<i>pl.</i> imenghan)
fill	riempiere	mala, yamla	tshar (<i>hab.</i>) tsathar, ammer, urrek
filly	puledro	muhrah	tatnit (<i>pl.</i> titniin)
find	trovare	wajad, yajid	af (<i>hab.</i> tsaf)
finger	dito	iṣba' (<i>pl.</i> aṣābi')	adad (<i>pl.</i> idudan)
fire-place	camino	mauqad	K. times, tims. S. tamsy
fire-wood	legna da fuoco	ḥaṭab	qushlal
firing-line	linea di fuoco	aṣ-ṣaffal-auwal	soffamzwaru
firm	sicuro	thābit	shdid (<i>pl.</i> -in); (<i>be f.</i>) sehi, qad
first	primo		amzwarid (<i>f.</i> thamzwaruth)
fish (<i>n.</i>)	pesce	samak	aslem (<i>pl.</i> iselman); (<i>fish-net</i>) ashbak (<i>pl.</i> ishbakén)
flag	bandiera	'alam (<i>pl.</i> a'lām)	aqidun (<i>pl.</i> iqidunnen)
flat	piano, piatto	musatṭah	amsawi (<i>pl.</i> unsawien iqad)
flea	pulce	burghūth (<i>pl.</i> barāghīth)	aqurd (<i>pl.</i> ik—den)
flee	fuggire	harab, yahrub	ruel (<i>hab.</i> reggul)
fleet	flotta	uṣṭūl	amara ne-sfain
flesh	carne	lahm	K. agsum (<i>pl.</i> igsumen). S. aksum
flock (<i>n.</i>)	mandra	qaṭī'	aqudar (cattle), aquda (sheep)
floor	pavimento	ardhiyah	nshir, taqaath (<i>pl.</i> tiqaatin)
flour	farina	ṭahīn	awren, tawzit (<i>pl.</i> iuzan)
flower	fiore	zahr (<i>pl.</i> zuhūr)	ajjejig (<i>pl.</i> ijjejigen)
fly (<i>n.</i>)	mosca	dhubābah (<i>pl.</i> dhubāb)	izi (<i>pl.</i> izzan)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
fly (v.)	fuggire, volare	tār, yatir	afeg (hab.) tsafeg ferr ; (go quick) ghwes
fog	nebbia	<u>dhabāb</u>	agu ; (thick) aghem- ghum
follow	seguire	tabi', yatba'	tiba, defer ; (following, <i>adj.</i>) itbaan, iteddu
food	cibo	ṭa'ām	qut, aish
foot	piede	qadam	K. adar (<i>pl.</i> idaren). S. tesila. Aujila, atar
foot-path	sentiero	maslak	tabrit (<i>pl.</i> tib-din)
for	per	li-	akken, iwakken, ghur, ghef
for me	per me	li	ghef i
for thee	per te	lak	ghef ek
for him	per lui	lahu	ghef eth
for her	per lei	lahā	ghef ets
for us	per noi	lanā	ghef agh
for you	per voi	lakum	ghef kun
for them	per loro	lahum	ghef then
forbid	proibire	naha, yanha	harrem, qara
ford (n.)	guado	makhādhah	amezger (<i>pl.</i> imezgaren)
forecastle	ponte di prua		
forest	bosco	ghābah	tizgi (<i>pl.</i> tisgwa malu)
forget	dimenticare	nasi, yansa	thu, ur chefu ara
forgive	perdonare	'afa 'an, ya'fu 'an	afu, semah ; (forgive- ness) afu, smah, asem- mah
fork	forchetta	shaukah	tafershit (<i>pl.</i> tifershitin)
formerly	prima	sābiqan	zik, zikenni
fortifications	fortificazioni	ḥiṣārāt	(fort) borj (<i>pl.</i> bruj), qasha (<i>pl.</i> -at), qsar (<i>pl.</i> qsur)
fortify	fortificare	ḥaṣṣan, yu- ḥaṣṣin	sezzewer
fortunate	fortunato	sa'id	as'ai (<i>pl.</i> is'aien), ghani (<i>pl.</i> ghaniat), asadi (<i>pl.</i> asadien)
fowl	polli	dajājah	tiuzad
fox	volpe	tha'lab (<i>pl.</i> tha'alib)	abarigh (<i>pl.</i> ib-ghen). S. tazidit
France	Francia	Frānsah	timurt (n.) Afransi

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
free (<i>adj.</i>)	libero	ḥurr, muṭlaq	gher iman, ili i lebghi ; (v.) beru i ; (freedom) tesrih, tazmert
Frenchman	Francese	Frānsāwi	Afransis
fresh	fresco	jadīd, raṭīb	(new, be f.) ajdid ; (vegetables) azigzan
Friday	Venerdi	Yaum al- jum'ah	as eljemaā
friendly	amichevole	bi-maḥabbah	(ally, military) buhbib ; (allied) amdakul (<i>pl.</i> imdukul)
frighten	spaventare	khauf, yu- khauf	siugwad, sekhla
from	da	min	se, si, seg, af, fell, ghef
from me	da me	minnī	seg i
from thee	da te	minka	seg ek
from him	da lui	minhu	seg eth
from her	da lei	minhā	seg ets
from us	da noi	minnā	seg agh
from you	da voi	minkum	seg kun
from them	da loro	minhum	seg then
frost	gelo	jalīd	agris
fruit	frutta	thammar, fawākih	(gen.) fakia ; (new f.) intelfakia
fuel	legna da ardere	waqūd, miḥ- rāq	isgharen
full	pieno	mal'ān	tshar, urrek
funnel	imbuto	madkhanah	mbod
fuze (<i>n.</i>)	fuso	fatilah	tauduft
gale	vento forte	zauba'ah	ghimra, swisha, fortuna
gallop (<i>v.</i>)	galoppare	rakadh, yarkudh	ghar, (<i>n.</i>) ghara
gate	barriera, cancello	bāb (<i>pl.</i> ab- wāb)	tabburt (<i>pl.</i> tibura)
gear	arnese	ālāt	harj
gelding	cavallo castrato	ḥiṣān makhṣī	gininar (<i>pl.</i> -en)
general	generale	amīr, qā'id	ayidan (<i>pl.</i> izidanen), amazuz (<i>pl.</i> imazuzen)
gentle	dolcemente	laṭīf	
German	Tedesco	Almāni	Brusy, Nemsy
Germany	Germania	Almānyā	El Brus, El Nemsia

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
get	arrivare	ḥaṣṣal, yuḥaṣ- ṣil	agh (hab.) tsagh, nal, harr; (become) ughal, eqqel; (arrive) awod ekker (hab. tekker)
get up (rise)	alzarsi	qām, yaqūm or nahadh, yanhadh	
girl	ragazza	bint, ṣabīyah	taqshisht (<i>pl.</i> tiqshishin), taqrurt (<i>pl.</i> tiuqrar), tahdait (<i>pl.</i> tihdaitin)
girth	cinghia	daur al-ḥizām	agus (<i>pl.</i> agusen), hzam (<i>pl.</i> ihzamen)
give	dare	a'ṭa, yu'ṭi	efk (hab. tsak), egg; (give up) efk, sellem
give in	cedere	istaslam, yastaslim	(abandon) K. ejj. S. naghra
glad	contento	farḥān, masrūr	asadi (<i>pl.</i> isadien); (be g.) ferah, zehu deg—, khalef
glass (the material)	vetro	zajaj	zajaj
glass (for drinking)	bicchiere	ka's (<i>pl.</i> ku'ūs)	kas (<i>pl.</i> kisan)
gloves	guanti	kufūf	
go—	andare	rāḥ, yarūḥ	lehu (hab.) lehhu (g.to); azghur
go away	andar via	dhahab, yadhhab	ruh, aghabrid
go in	entrare	dakhal, yad- khul	keshem (gher)
go out	uscire	kharaj, yakh- ruj	effegh (hab. teffegh)
goat	capra	ma'z	taghat (<i>pl.</i> tighten)
gold	oro	dhahab	dheb
good	buono	jaiyid	dlali
goose	oca	wazzah	awzziu (<i>pl.</i> iuzzien)
governor's office	uffizio del governatore	dār al- ḥukūmah	biro n-hukum
grass	erba	ḥashish, 'ushb	K. hshish, hish, rhia. S. l'alef
grateful	grato	shākir	bab elkhir; (be g.) err elkhir

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
great	grande	‘aẓīm	amoqran (<i>pl.</i> imoqrinon). S. azwarāf
greatcoat	cappotto	‘abā	abernus (<i>pl.</i> ibernias)
green	verde	akhḍhar	K. azigzau (<i>pl.</i> azigza- wen). S. awragh
greet	salutare	sallam ‘ala, yusallim ‘ala	sellem fell fell-
grey	grigio	ashhab	azigzau (<i>pl.</i> izigzawen)
guide (<i>n.</i>)	guida	dalīl	amsa‘af (<i>pl.</i> imsa‘afen)
guide (<i>v.</i>)	dirigere, guidare	hada, yahdi <i>or</i> dall, yadull	saaf, refeq, debber
guilty	colpevole	mujrim, jāni	amednub (<i>pl.</i> imed- nuben)
gulf	golfo	khalij	mersa
gun	cannone	madfa‘ (<i>pl.</i> madāfi‘)	temekhalt hetim-lin
gun-boat	cannoniera	ghānbōt	
hail	grandine	barad	igedrez, abruri
hair	capello	sha‘r	K. anzad (<i>pl.</i> inzaden); (cuth.) gerresh. S. sha‘ar
halt (<i>v.</i>)	fermarsì	waqaf, yaqif	bedd, qim; (<i>n.</i>) menzel (<i>pl.</i> mnazel); (Halt!) arju! (<i>pl.</i> arjut!) qim!
hammer (<i>n.</i>)	martello	maṭraqah	azduz (<i>pl.</i> izduzen)
hammer (<i>v.</i>)	martellare	daqq, yaduqq	dezz (<i>hab.</i> teddez)
hand	mano	yad (<i>pl.</i> aidi)	afus (<i>pl.</i> ifasen), aftus (<i>pl.</i> iftusen)
hand grenade	granata a mano	qumbalat al- yad (<i>pl.</i> qanā- bil al-yad)	
hang up	appendere	‘allaq, yu‘alliḡ	alleq (<i>hab.</i> talleq)
harbour	porto	minā (<i>pl.</i> ma- wāni)	mersa (<i>pl.</i> mراسي)
hard	duro	ṣulb	aqoran (<i>pl.</i> iqoranen), azuwran (<i>pl.</i> izuwranen)
hate (<i>v.</i>)	odiare	karih, yakrah	beghed, dull, heqer; (<i>n.</i>) abghad, bghed, krah, ahqar
have—	avere	(<i>pronominal</i> <i>suffix added</i> <i>to preposition</i> <i>‘ind, ‘with’</i>)	saw, keseb; also by <i>prp.</i> ghur, e.g.

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
I have	io ho	‘indi	ghuri <i>or</i> sāigh
thou hast	tu hai	‘indak	ghurek <i>or</i> thesaidh
he has	egli ha	‘indahu	ghur th <i>or</i> isāa
she has	ella ha	‘indahā	ghur ts <i>or</i> thesāa
we have	noi abbiamo	‘indanā	ghur agh <i>or</i> nesāa
you have	voi avete	‘indakum	ghur kun <i>or</i> the- sā’am
they have	egli hanno	‘indahum	ghur then <i>or</i> sā’an
have not	non abbiamo	mā ‘indi (<i>etc.</i>)	ur ghuri afa, ur saigh ara (<i>etc.</i>)
have you ?	avete voi ?	hal ‘indak ?	ghurek kera ?
hay	fieno	‘alaf, tibn	asaghur, ahishur, qord
he	egli	hua	netsa
head	capo	ra’s (<i>pl.</i> ru’ūs)	aqarru (<i>pl.</i> iqura), ikhf (<i>pl.</i> ikhfawn)
headache	mal di capo	ṣudā‘, waja’ ra’s	qarh guqarru
headland	promontore	ra’s (<i>pl.</i> ru’ūs)	ras
head-quarters	quartier generale	markaz al- qā’id al-‘āmm	
healthy	sano	muta’āfi	ishan ; (be h.) sehi
heap (<i>n.</i>)	mucchio	kōm	ammur (<i>pl.</i> iammuren), ageddud (<i>pl.</i> igeddu- den) ; (<i>v.</i>) sers taffa, uquem taffa
heap up	ammontare	kauwam, yukauwim	jemmel, jema
hear	udire	sami‘, yasma’	sel (hab. sell)
heart	cuore	qalb (<i>pl.</i> qulūb)	K. ul (<i>pl.</i> ulawu). S. awli
heat (<i>v.</i>)	riscaldare	sakhkhan, yusakhkhin <i>or</i> ahma, yuhmi	(<i>intrans.</i>) K. azghal, tazghuli. S. hammu, lammusahmu(<i>v.trans.</i>)
heat (<i>n.</i>)	calore	ḥarārah	azghal, tazghuli
heavy	pesante	thaqīl	azaian (<i>pl.</i> izaianen), amazaye (<i>pl.</i> amazaien)
helm	timone	daffah	
help (<i>v.</i>)	ajutare	sā‘ād, yusā‘id	aiwen (hab. tsawan)
help (<i>n.</i>)	aiuto	musā‘adah	amaiwen (<i>pl.</i> imawa- nen)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
herd	armento	sirb (<i>pl.</i> asrāb)	tarbaat (<i>pl.</i> tirbaa), tar- ift (<i>pl.</i> tiarifan); (herd of cattle) aqudar (<i>pl.</i> iqudaren); (sheep) aquda (<i>pl.</i> iqudain); (goats) aharrag (<i>pl.</i> iharragan)
here	qui, qua	hunā	K. da, dagi, dagini; (to h.) gher da. S. iqda
hide (<i>trans.</i>)	nascondere	akhfa, yukhfi	(conceal) uffer, kimes.
hide (<i>n.</i>)	hille	jild	(skin) K. agulim (<i>pl.</i> igelman); (raw h.) alemsir (<i>pl.</i> ilemsiar) S. elam, aqlim
hide (<i>intrans.</i>)	nascondersi	ikhtafa, yakh- tafi	khebbi (hab. tskehbbi)
high	alto	'ālī	'alaye; (in air) gigenni
high-road	strada maestra	ṭarīq (<i>pl.</i> ṭu- ruq)	abrid anesli
high-water	alta marea	madd al-mā	
hill	collina	tall (<i>pl.</i> tulūl)	K. ighil (<i>pl.</i> ighalen), tighilt (<i>pl.</i> tighallen), S. tawrerirt
hillock	collinetta	tall ṣaghīr	agmun (<i>pl.</i> ig—nen)
hilly	montuoso	dhāt tulūl	isaan idurar
him	lui	-hu, -hi (<i>suffix</i>)	s, is, as; (<i>suffix</i> to verb) —th; (<i>suffix</i> of him, to him) in es; (to him) ias, as
hinder	impedire	mana', yamna'	uqah, qerra; (be hin- dered) ur stufa ara, ur istefu
his	il suo	-hu, -hi (<i>suffix</i>)	-ines, -is, -s
hit (<i>v.</i>)	battere, colpire	aṣāb, yuṣīb	K. uut, terek; (with stick) S. tighrit, tiita
hither	il piu vicino	ila hunā	ar da, sia, siagi, gher da. S. ikda
hobbles (<i>n.</i>)	presa	'iqāl	shkal (<i>pl.</i> -at); (<i>v.</i>) she- kel, rebg (<i>pl.</i> rbug)
hold (<i>v.</i>)	tenere, sostenere	masak, yam- suk	(keep) jemā, ettef (hab. tsattaf)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
hold (contain)	contenere	iḥtawa, yaḥ-tawi	awi (hab.) tsawi
hold (a position)	essere in possesso	ḥāma, yuḥāmi	ettef (hab. tsattaf)
hold out	mantenere	taḥammal, yataḥammal	namer (hab. tsnamer)
hole	buco	naqb (<i>pl.</i> anqāb)	(through) tuffin; (in) ak-hujed (<i>pl.</i> ikhujeden), akhmuj (<i>pl.</i> ikhmujin)
honest	onesto	ṣādiq	lali, kun, (<i>fem.</i>) kunt; (honesty) adl, haqq, hdaqa
hook	uncino	qullāb (<i>pl.</i> qa-lālib)	(fish) amekhtaf (<i>pl.</i> imekhtafen); (clothes) tabzimt (<i>pl.</i> tibzimtin)
hope (<i>n.</i>)	speranza	amal, rajā	timerjiut, rja
hope (<i>v.</i>)	sperare	raja, yarju	reju, ukkel
horse	cavallo	ḥiṣān	awdiu (<i>pl.</i> iadiwen); (riding horse) awdiu arrekab; (pack horse) zaila (<i>pl.</i> zuail); (horse-cloth) ajlal (<i>pl.</i> ijlalen), jlala (<i>pl.</i> -at)
horseshoe	ferro di cavallo	na'l faras	tasfiht (<i>pl.</i> tisfihin)
hospital	ospedale	mustashfa	sbitar
hostile	ostile	mukhālif, 'udwāni	b'uaḍaw, aḍaw (<i>pl.</i> ia-dawen)
hot	caldo	ḥār	iahman, amerghan; (be hot) hemu, ergh; (weather) zeqel
hour	ora	sā'ah	saat
house	casa	bait (<i>pl.</i> buyūt)	akham (<i>pl.</i> ikhamen) thazqa (<i>pl.</i> tizerghwa)
how much	quanto	kam, (<i>of price,</i> bi-kam, biash)	(how ?) amek ?; (how much ?) ai ! ag ! ara, dashal ?; (how long ?) ashal nezman ?
how many	quanto	kam	ashal ?
hungry	affamato	jā'i, jau'ān	amellazu (<i>pl.</i> imallaza); (be h.) laz
hurry (<i>n.</i>)	fretta	'ajalah	ajel (hab. tsajal)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
hurry (v.)	accelerare, far presto	asra', yusri'	(trans.) sajel, (intrans.) ajel, ghiwel; (hurry!) ghiulet, fissaāt
husband	marito	zauj	K. argaz (pl. irgazen), zuj (pl. zuaj). S. guz, juz
I	io	anā	K. and S. nek, nkini, nekini; with verb is suffix —gh, (I understand) fahmegh
ice	ghiaccio	thalj, jalid	agris
if	se	in	K. ma, imm. S. imani
ignorant	ignorante	jāhil	ur issin ara; (be i.) jehel
ill	malato	marīdh	(be ill) aden, helek, hess; (make ill) mered
illness	malattia	maradh	atan (pl. idanen), nlak
impossible	impossibile	mustahīl	muhāl; (It is i. that) ulamek ara
imprison	imprigionare	ħabas, yahbis	sehbes; (imprisonment) aħbas
impudent (yokel)	impertinente	bilā ħayā	amqebuh (pl. im-bah)
in	dentro	fī	K. deg (abbrev. g—), di (abbrev. d—). S. ekim
inconvenient	scomodo	ghair munāsib	idorren, itsawiqen
increase (trans.)	crescere	zād, yazīd	K. zegged, snerni, semghur. S. aktar, anerni
increase (intrans.)	accrescere	izdād, yazdād	meghor (hab. tsemghor)
India	India	Bilād al-Hind	Hind
Indian	Indiano	Hindi	Hindi
indigestion	indigestione	tukhmah, sū al-hadhm	tamagirt
infantry	fanteria	piyādah	tiraiul, zwaf
infectious	infettivo	mu'di	neted; (be inf.) neted; addi; (inf. disease) atan ithadain
inform	informare	akhbar, yukhbir	khebbber, mel; (information) khbar, asteqsi
in front	davanti	quddām, amām	(forward) zdat, ezzat

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
in front of	in' faccia a	quddām, amām	ilmendad, qbel
in future	per il futuro	fil-mustaqbil	sia d-usawn
ink	inchiestro	hibr	(European) midad, (Arab) smagh
inlet	entrata	khalij ṣaghīr	mersa
innocent	innocente	barī	zdig ul-is, isfa ul-is ; (innocence) sfawa b- ul, haqq
inside	interno	dākhil	K. dakhel, deg. S. ekim. (the i.) ul, alammās
insult (v.)	insultare	ahān, yuhīn	regem, shetem
insult (n.)	insulto	ihānah	regma, ashtam, ajder
intelligent	intelligente	'āqil	bab laql ; (intelligence) 'aql
intend	intendere	arād, yurīd	beghu, ani, benu ; (in- tention) bg̃hi, qsed, gherghd
interpret	interpretare	tarjam, yutar- jim	terjem
interpreter	interprete	tarjumān	terjeman (pl. -at)
into	nel	fī, ila	gher
invent	inventare	ikhtara', yakh- tari'	snulfu, sufegh, jabid ; (invention) asnulfu (pl. imesnulfa), asufegh, tufin
invite	invitare	da'a, yad'u or 'aram, ya'zim	'ared, neshed ; (be in- vited) maaned ; (in- vitation) arad, anshad
iron (n.)	ferro	ḥadīd	uzzal
iron (adj.)	di ferro	ḥadīdi	b-uzzal
irrigate	irrigare	asqa, yusqi	essu (hab. esswaie)
island	isola	jazīrah (pl. jazā'ir)	tigzirt (pl. tigzirin)
is there ?	c' è ?	hal ?	illa ?
it	egli	-hu, -hi, -hā (suffix)	see him
its	il suo	-hu, -hi, -hā (suffix)	-ines, -is, -s
jackal	sciacallo	wāwi (pl. wāwī- yah)	ushen (pl. ushanen)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
jam	conserva	murabba	
January	Gennajo	Kānūn ath-thāni	Innair
jetty	molo	rasīf, musan-nāyah	meks
Jew	Ebreo	Yahūdi (<i>pl.</i> Yahūd)	Udai (<i>pl.</i> Udaïen)
journey	viaggio	safar	sfer, sefra (<i>pl.</i> -at)
jug	brocca	ibrīq	taqlilt (<i>pl.</i> tiqliltin)
July	Luglio	Tammūz	Iuliu
jump (<i>v.</i>)	saltare	qafaz, yaqfız	K. jelleb, neggez. S. ajelleb, aneggez
June	Giugno	Ḥazīrān	Iuniu
jungle	macchia	ghābah	amadagh mshebbek
justice	giustizia	inṣāf, 'adl	haqq, 'adl
keel	chiglia	qā'idat al-markab	aselas n-elmerkeb
keep	tenere	ḥafız, yahfaz	jema ghur—, awi
kettle	ramino	kitri, ghal-lāyah	tuggi (<i>pl.</i> tigguwın)
key	chiave	miftāh	tasarut (<i>pl.</i> tisura), afus (<i>pl.</i> ifusen)
kick	dare un calcio	rafas, yarfus	(<i>n.</i>) arkel, taqareth
kid	capretto	jadyū	ighid (<i>pl.</i> -den), ahuli
kill	uccidere	qatal, yaqtul	K. engh. (hab. neq) S. anagha; (be killed) mengh
kind	gentile	mun'im, ḥalīm	amahsan, (sort) senf (<i>pl.</i> asnaf), jens (<i>pl.</i> ajnas); (what kind?) anua senf?
kind (<i>n.</i>)	specie, razza	jins (<i>pl.</i> ajnās)	(kindness) hsana, fdel, jud
king	re	malik (<i>pl.</i> mulūk)	agellid (<i>pl.</i> igelliden)
kingdom	regno	mamlakah (<i>pl.</i> mamālik)	dula
kitchen	cucina	maṭbakh	tahamt usebwi, taku-zint
knee	ginocchio	rukbah	tagushrirt (<i>pl.</i> tigush-rar)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
knife	coltello	sikkīn (<i>pl.</i> sakākīn)	K. mus (<i>pl.</i> amwas); (large) ajenni (<i>pl.</i> ijen- nien). S. takhassat
knot (distance)	miglio	mīl (<i>pl.</i> amyāl)	tiersi (<i>pl.</i> -iwin), tikersi- iwin
know	sapere	‘araf, ya‘rif	K. essen (hab.) tsissin. S. sin
Kurdistan	Curdistan	Kurdistān	Kurdistan
lack (<i>v.</i>)	mancare	ihtāj ila, yahtāj ila	Khuss (hab. tskhusan)
lake	lago	buhairah	agulmim, amrij (<i>pl.</i> imerjan)
lamb	agnello	ṭalī (<i>pl.</i> ṭulyān)	K. and S. izimer (<i>pl.</i> izamaren)
lame	zoppo	a‘raj	akraf (<i>pl.</i> ikrafen), arej- dal, anaibu; (be l.) aab; (lameness) arej- del, ashudel
lamp	lume, lampada	sirāj	taftilt (<i>pl.</i> tiffilin)
lance	lancia	rumḥ (<i>pl.</i> rimāḥ)	mezrag (<i>pl.</i> mzareg)
land (<i>n.</i>)	terra	ardḥ, barr	berr, qaa‘a
landing-party	gente che sbarca	ṭālī‘in al-barr	takubanit
language	lingua	lughah (<i>pl.</i> lughāt)	ameslaye, hdur, tame- stait
large	grande	kabīr	amoqran (<i>pl.</i> imaq- ranen)
last	l’ ultimo	ākhir	(<i>adj.</i>) angaru (<i>pl.</i> in- gura), amdarfi (<i>pl.</i> im- darfien); (<i>v.</i>) dum, tul
late	tardi]	muta‘akhkhir, baṭī	(<i>v.</i> be l.) attel; (<i>adj.</i>) mukhkher (<i>pl.</i> -in), ith- allelen azaian (<i>pl.</i> iz- nen)
laugh (<i>v.</i>)	ridere	dhahik, yadhḥak	eds (hab.) tadsa; (laugh- able) tamart, ithawin- tadsa, isedsan
laugh (<i>n.</i>)			tadsa
launch (<i>n.</i>)	varare	zauraq	zawraq b-usersi
law	legge	qānūn (<i>pl.</i> qawānīn)	amr, awssi

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
lay (place, put)	posare	wadhā', yadhā'	sers (hab.) srusu, sider
lazy	pigro	kaslān	amadazai (<i>pl.</i> imaduya), addaz (<i>pl.</i> ia—en)
lead metal (<i>adj.</i>)	dil piombo	raṣāṣi	rsas, aldun
lead (metal <i>n.</i>)	piombo	raṣās	rsas, aldun
lead (<i>v.</i>)	guidare	qād, yaqūd	awi, err ; (<i>l.</i> an animal) steba
leak (<i>n.</i>)	versa	naqb, thuqb	ansii (<i>pl.</i> in—en), insis
lean (<i>v.</i>)	appoggiarsi	naḥif	sbedd (hab.) sbeddaye, sit
lean (<i>adj.</i>)	magro	naḥīf	hezel, daf
learn	imparare	ta'allam, yata'allam	hefed, alem
leather	pelle	jild	agulim (<i>pl.</i> igulman) ; (dressed <i>l.</i>) adbegh
leave (<i>v.</i>)	lasciare	tarak, yatrūk	ejj, effegh i—
leech	sanguisuga	'alaqah (<i>pl.</i> 'alaq), dūdah (<i>pl.</i> dūd)	adghur (<i>pl.</i> id—ren)
left	sinistra	shimāl	(<i>v.</i> be left over) ager, qim ; (<i>adj.</i> left side) afus azelmad (<i>pl.</i> iz— en), azerwad
leg	gamba	sāq	aqjer, taqjart
lend	prestare	daiyan, yūdaiyin (mo- ney) ; a'ār, yu'ir (general)	redel (hab.) rettel 'air ; (lender) iun irtelen
length	lunghezza	ṭūl	turtsi, tghetsi ; (time) duam
less	il meno	aqall	
letter	lettera	maktūb (<i>pl.</i> makātīb), risālah (<i>pl.</i> rasā'il)	(alphabet) harf (<i>pl.</i> hruf), tabrath (<i>pl.</i> tib- rathin)
level (<i>adj.</i>)	livello	sahl (<i>ground</i>), mutasāwi	'adl ; (be <i>l.</i>) 'adel ; (<i>v.</i>) s'adel
level (<i>n.</i>)	piano, pianura		
lie (on a bed, &c.)	sdraiarsi (sul letto)	idhtaḥja', yadhtaḥji'	(lie down) deleq (hab.) delliq, ezzel, fesser ; (lie in wait for) zwir

<i>English</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
lie (to tell a)	mentire	kadh ab , yakh dh ib	kdeb (hab.) tskaddib; (liar) akeddab (<i>pl.</i> ik—en)
lie (<i>n.</i>)	bugia	kid h b	kdeb (<i>pl.</i> khub)
lieutenant	tenente	mulāzim	
life	vita	‘umr, hayāt	tudert, tameddurt, ruh
life-belt	salvagente	hizām annajāt	
lift	sollevare	rafa‘, yarfa‘	s‘ali, refed
light (not heavy)	leggero	khafif	afessas (<i>pl.</i> if—en) ; (be l.) fesses
lighter (boat)	rimorchiatore	dūbah	
lights	lumi	anwār	(light of candles) tafat, tashemwat ; (of sun) tafukt ; (give light) uqem tafat
limit (terminus)	limite	hadd (<i>pl.</i> hudūd)	hadd (<i>pl.</i> hdud), mhadda (<i>pl.</i> -at), tilist (<i>pl.</i> tilisa)
limp (<i>v.</i>)	zoppicare	‘araj, ya‘raj	rejdel (hab. tsrejdil)
line (rope)	corda	khatt (<i>pl.</i> khuṭūṭ)	(rank) adarru, soff (<i>pl.</i> sfuf)
lip	labbro	shafah (<i>dual.</i> shafatain)	ashenfir (<i>pl.</i> ish—en)
listen	sentire	asgha ila, yusghi ila <i>or</i> sami‘, yasma‘	hess (hab. tshassis), semhas
little (<i>adv.</i>)	poco	qalīlan	shwit, shwia ; (<i>adj.</i>) amzian (<i>pl.</i> im—en)
little (quantity)	un poco	qalīl	zigh, tra
live	vivere	‘āsh, ya‘ish	zedegh
live (i.e. dwell)	abitare	sakan, yaskun	zedegh
lively	vivace	nashīṭ	imzegi, akhfif
liver	fegato	kabid	tasa
load (<i>n.</i>)	peso	himl	taqumt (<i>pl.</i> tiaqumin), thabga (<i>pl.</i> -at)
load (<i>v.</i>)	caricare	hammal, yuhammil	‘abbi
load (a gun)	caricare un fucile	‘amar, yu‘ammir	ammer (hab. tsammir)
load (a pack animal)	caricare un mulo		‘abbīt i waudio
lock (<i>n.</i>)	serratura	qufl	(wood) tashlalt
lock (<i>v.</i>)	serrare	qaffal, yuqaffil	seker (hab. sekker)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
locust	locusta	jarād	K. ajrad, aharrad. S. aqmar nugen
log	ceppo	qurmah	ilgh (<i>pl.</i> ilghan), azgur (<i>pl.</i> izghuran)
log (of ship)	giornale di bordo	barnāmaj	aghetsfan (<i>pl.</i> i—en);
long	lungo	ṭawīl	(be l.) qhetsef; (longing) ashedhi
look at	guardare	nazar ila, yanzur ila	(<i>v.</i>) khezer deg—, ferez deg—; (look out!) ghurek! ghur!; (look for) qelleb; (looking) thuqelleba
look-out (<i>n.</i>)	vedetta	hāris	sumaa
loot (<i>n.</i>)	bottino	nahb, ghanīmah	(<i>v.</i>) haus (hab. hugges)
lorry	carro		takarrust (<i>pl.</i> tik—sin)
lose	perdere	faqad, yafqid	kheser, <i>or by v.</i> ruh (gone), <i>with thing lost as subject</i>
loss	perdita	khasārah (<i>pl.</i> khasā'ir)	takhsart, ruah
louse	pidocchio	qaml	tilkit, tillisht (<i>pl.</i> tillishin)
low	basso	wāṭi	ameshtuh (<i>pl.</i> im—en), mettsi (<i>pl.</i> mettsiit); (lower) iukser
low-water magazine (powder for all arms)	bassa marea polveriera	jazr al-mā makhzan al-bārūd	makhzen n-barud
maize	grano turco	dhurah	akubal
major	maggiore	bimbāshi	
make	fare	šana', yašana'	uqem (hab. tsuqim), sena
man	uomo	rajul (<i>pl.</i> rijāl)	bunadem, argaz (<i>pl.</i> irgazen)
map	carta geografia	kharīṭah	karta
March	Marzo	Adhār, Mārs	maghres
march (<i>v.</i>)	marciare	zaḥaf, yazḥaf <i>or</i> masha, yamshi	lehu (hab. lehhu), (by night) seri

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
mare	cavalla	faras	tagmart (<i>pl.</i> tighallin)
mark (<i>n.</i>)	segno	‘alāmah (<i>pl.</i> ‘alāmāt)	alam, alama (<i>pl.</i> -at), imara (<i>pl.</i> -at)
market	mercato	sūq	suq (<i>pl.</i> aswaq)
marsh	palude	mustanqa‘, haur (<i>pl.</i> ahwār)	amrej (<i>pl.</i> imerjan)
mast	albero	ṣārīyah	sari (<i>pl.</i> swari)
master (of ship)	maestro	maula, saiyid	mula ghrai (<i>pl.</i> imawlan), bab (<i>pl.</i> aitbab); (teacher) malle
matches	zolfanelli, fiammiferi	kibrūt	tizelmit, taharraqt (<i>pl.</i> tih—qin)
May	Maggio	Aiyār, Māyū	main
me	me, mi	-ī, -nī (<i>suffix</i>)	(<i>suffix to v.</i>) i; (of, to, me) in u
mealies	farinacei	idhrah	meal (flour) awren, tawzit
mean (<i>v.</i>)	intendere	‘ana, ya‘ni	‘ani; (stingy, <i>adj.</i>) amshehhi
measure (<i>v.</i>)	misurare	qās, yaqīs	(size) qis; (content) ketil
measure (<i>n.</i>)	misura	miqyās, tūl	qis, qedd, usa
meat	carne	laḥm	K. agsum; (piece) tashriht. S. aksum
medicine	medicina	dawā	duwa (<i>pl.</i> duwai), duawi
meet	incontrare	lāqa, yulāqi	melil, muger; (meeting) amager, amlili, zher; (assembly) anejmwa
melted butter	strutto	duhn	
mend	raccomodare	ṣallaḥ, yuṣallih	reqa, gerrez; (clothes) jebber
merchant	commerciante	tājir (<i>pl.</i> tujjār)	tajer (<i>pl.</i> tejjar)
metal	metallo	ma‘din (<i>pl.</i> ma‘ādin)	māden
metalled road	strada rotabile	shōṣah, shāri‘ muzallaṭ	abridanesli
middle	il centro	wasat	(<i>n.</i>) K. talem mast. S. gammas; (<i>adj.</i>) K. nuf and ness. S. ammas

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber</i>
mile	miglio	mīl (<i>pl.</i> amyāl)	mil
military	militare	'askari	n-lasker
milk	latte	ḥalīb	(<i>n.</i>) K. aifki, akfai. S. akhy. (sour m.) ighi; (<i>v.</i>) tseg.
mill	mulino	tāḥūnah	(<i>n.</i>) tisirt (<i>pl.</i> tisiar); (<i>v.</i>) mesol
millet (large)	miglio grosso	dukhn	absis
millet (small)	miglio minuto		aqollab
mine (<i>pron.</i>)	il mio	-ī (<i>suffix</i>)	(<i>sep.</i>) inu, d-aila-u; (<i>suffix</i>) -iu, -inu, -au, -u
mine	mina	lughm (<i>pl.</i> alghām)	maden
explosive (<i>n.</i>)			tibernint
minute (<i>n.</i>)	minuto	daqīqah (<i>pl.</i> daqā'iq)	dqiqa (<i>pl.</i> dqaiq)
missing	mancante	mafqūd	imenneg areq g-ubrid
mix	mischiare	khalat, yakhlit	kheled; (liquids) rui, hab. reggwi
monastery	monastero	dair	zawiya
Monday	Lunedì	Yaum al-ith-nain	tnain
monitor	monitore	monitor	
month	mese	shahr (<i>pl.</i> ash-hūr)	K. agur (<i>pl.</i> -ren). S. lalalle
moon	luna	qamar	K. agur (<i>pl.</i> en). S. taziri; (new m.) ilul
			wagur; (full m.) inshef
more	più	akthar	akter; (of —) akter n— and khir <i>following obj.</i> ; (no more) ur u <i>with future</i> , ur awd <i>with future</i>
morning	mattina	ṣabāḥ	K. sbah (<i>pl.</i> sbuh), tasebhit. S. aṭāw. (in the morning) gher essebah; (good morning!) sbah elkhir! <i>usually</i> la slama
mosquito	zanzara	ba'ūdḥah	namus (<i>pl.</i> nwames)
mother	madre	umm	K. imma (<i>pl.</i> timmatim). S. omma

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
mountain	montagna	jabal (<i>pl.</i> jibāl)	K. and S. adrar (<i>pl.</i> idura). (Small) K. ag- mun (<i>pl.</i> igmen)
mountain- range	catena di mon- tagne	silsilat jibāl	amadar
mouth	bocca	fam	K. ĩmi (<i>pl.</i> imawn). S. ambu
mouth (of river)	foce	fam an-nahr	imi (<i>pl.</i> imawn)
move (<i>trans.</i>)	muovere	ħarrak, yuħar- rik	huzz, smil
move (<i>intrans.</i>)	muoversi	taħarrak, yataħarrak	mbwiewiel
much (<i>adj.</i>)	molto	kathīr	atas, nezzeh, itagten
much (<i>adv.</i>)	troppo	kathīran	shata
mud	fango	wahl	(deep) agdir, alud, abrun
muddy	fangoso	muwahħal	(roads) ilshuren; (liquid) swalud
mud flats	pianura melmosa	dihlah, tamyū	
mule	mulo	baghl (<i>pl.</i> bi- ghāl)	aserdun (<i>pl.</i> iserdan)
muleteer	mulattiere	baghghāl, mu- kāri	ubughal (<i>pl.</i> ib—en)
must	deve	lāzim an	sefk, lezem
mutiny (<i>n.</i>)	ammutinamento	‘aṣyān, thau- rah	(<i>v.</i>) K. nafeq, assi. S. nfaq
mutton	montone	lahm dhāni	K. agsukm n-ikerri. S. aksum n-hawly
my	il mio	-ī (<i>suffix</i>)	-iu, -inu, -au, -u
nail (iron)	chiodo	mismār (<i>pl.</i> masāmīr)	amesmer (<i>pl.</i> im—ren)
nail (finger)	unghia	zifr (<i>pl.</i> aẓfār)	K. and S. isher (<i>pl.</i> asharen). K. (of cats, &c.) akabber (<i>pl.</i> ik— en)
narrow	stretto	dhaiyiq	K. amdieq (<i>pl.</i> im—en). S. atiāq
naval	navale	bahri	n-lebhar
navigate	navigare	qād al-markab, yagūd al- markab	safer f-baher

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
navigation	navigazione	milāḥah, qiyā-dat al-mar-kab	tsedbir n-lebhar
navy	marina	uṣṭūl, 'imārah bahrīyah	baburat
near	vicino	qarīb	K. grib, ghef, gher. S. ghur, fell. (Go near) lehu ghef — ; (draw near) gerib, awi-grib —
necessary (it is)	è necessario	wajab, yajib or lazim, yalzam	ležem, sefk, awjeb
neck	collo	raqabah	isefk foll. by pronoun
need (v.)	aver bisogno	iḥtāj ila, yaḥtāj ila	K. amgerd (<i>fem.</i> tam-gert). S. tamja
needle	ago	ibrah	K. stehaqq, thahqiq. S. akhussu, khsas
neither . . . nor	nè . . . nè	lā . . . wa-lā	K. and S. tisignit (<i>pl.</i> -in), ibra
net	rete	shabakah	tajemmat, shbak (<i>pl.</i> -at)
never	mai	abadan	abaden, lamr, deglamr
new	nuovo	jadīd	K. ajdid (<i>pl.</i> ij—den). S. atrar
newspaper	giornale	jarīdah (<i>pl.</i> jarā'id)	jernan (<i>pl.</i> -at)
nice	piacevole	malih	am'azuz, i'ajeb
night	notte	lailah	id (<i>pl.</i> adan)
no	no	lā	K. ala. S. wala
noon	mezzogiorno	zuhr	tanesfa-b-was, dhur ; (to noon-halt) menzel n dhur
no one	nessuno	lā wāḥid	ula had
north	nord	shamāl	dahra, juf
northern	settentrionale	shamālī	juf
nose	naso	anf	anzaren, akhshem
nosebag	sacco da muso	'aliqah, mikhlāt	asegreo (<i>pl.</i> isegras)
not	non	mā (<i>with verbs</i>), ghair (<i>with adj.</i>)	(<i>verb negat.</i>) ur—ara ; (he does not eat) ur itets ara
not at all	affatto	lā lā	d-lasl, bitsa
nothing	niente	lā shai	ulash

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
not yet	non ancora	lis-sā' mā (<i>followed by verb</i>)	ur aad
November	Novembre	Tishrīn ath-thāni	Nwember
now	adesso	alān	tura, de luoqt agi
nowhere	in nessun posto	mā [+ <i>verb</i>] fi aiy makān	ula iun jiha
number (<i>n.</i>)	numero	'adad	adad, hsab
oar	remo	miqdāf	ameqdaf (<i>pl. im—fen</i>)
oats	avena	dausar, shūfān	azkun
obedient	ubbidiente	ṭā'i', muṭi'	ithdu'an, amd'ai, itha-ghawal
obstinate	ostinato	'anīd	K. anammir (<i>pl. im—namaren</i>); (be o.) namir. S. aqahry (<i>adj.</i>)
October	Ottobre	Tishrīn al-auwal	Tuber
officer	ufficiale	dhābiṭ	fitsier (<i>pl. -at</i>)
often	spesso	mirāran	atas iberdan, atas abrid
oil	olio	zait	K. zit. S. eldahn
old (ancient)	antico	'atīq	awsran (<i>pl. iwsranen</i>), amoqran (<i>pl. im—en</i>); (be o.) usser
old (worn)	usato	bāli	aqdim (be o. <i>vb.</i>) jered
old man	un vecchio	shā'ib, 'ajūz	amghar (<i>pl. im—ren</i>)
old woman	una vecchia	'ajūz	tamghart (<i>pl. tim—ren</i>)
omelet	frittata	'ijjah, khāgīnah	tisebusht
on	sul, su	'ala	K. and S. ghef, af, f—, fell, deg
once, twice, thrice	una volta, due volte	marrah, mar-ratain, thalāth marrāt	(once) tikelt (<i>pl. tikwal</i>), abrid; (formerly) zik; (at once) imiren, bikenfi
only (<i>adv.</i>)	solamente	faqat	daia, barka, bark, kana
open (<i>adj.</i>)	aperto	maftūh	iddin; (sincere) asduqi
open (<i>v.</i>)	aprire	fatah, yaftah	elli, felleq
or	o	au	negh
order (<i>v.</i>)	ordinare	amar, ya'mur	(arrange) K. una, gerrez (hab.) tsgerriz. S. agerrez; (command) amer

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
order (<i>n.</i>)	ordine	amr (<i>pl.</i> awā-mir), nizām	(command). amr (<i>pl.</i> amur)
our	nostro	-nā (<i>suffix</i>)	-ennar; (after vowels) -t-nar
ours	il nostro	mālnā, lanā	en nagh
out of	fuori di	min	berra i—, kharej i
outpost	avamposto	qarāwul	
outside	di fuori	khārijan	K. berra. S. yalbar
oven	forno	tannūr	kusha (<i>pl.</i> -at)
over	sopra	‘ala, fōq	o-ufella (ghef-)
overboard	nell’ acqua dal vapore	fil-bahr	fellbhar
owing to, be- cause of	pervia, perchè	li-ajl	(on account) din (<i>pl.</i> diun), e.g. I owe money to my brother, ithalas-ū-d egma idrimen
ox	bua	baqar	azgar (<i>pl.</i> izgeren)
pack-saddle (camel)	sella da basto per camello	khurj al-jamal	taberdāa (<i>pl.</i> tiberdiai)
pack-saddle (mule)	sella da basto per mulo	khurj al-baghl	aberdāa
pain	dolore	waja‘	auja, qarh; (violent) uswas; (moral) hzen; (v.) seqrah, nezzef
Palestine	Palestina	Filistīn	shām
paper	carta	waraq, qirtās	K. karet; (white) karet-isfan. S. tehartan
pass (defile)	valico	manfad (<i>pl.</i> manāfid)	tizi (<i>pl.</i> tiza)
passage	passaggio	mimarr	abrid (<i>pl.</i> iberdan); (door, &c.) tabburt (<i>pl.</i> tibura)
password	parola d’ordine	ism al-lailah	ālam
path	sentiero	maslak (<i>pl.</i> ma-sālik), darb (<i>pl.</i> durūb)	abrid (<i>pl.</i> iberdan); (difficult) ashrif
patrol (<i>n.</i>)	pattuglia	hāris, nātūr	‘assas (<i>pl.</i> ia—sen)
patrol (<i>v.</i>)	far la sentinella	hāras, yahrus	‘ass (hab. ts’assa)
pay (<i>n.</i>)	paga	ujrah, shah-riyah	khalles; (a fine) khelles-khatia; (a tax) khelles-ghrama
pay (<i>v.</i>)	pagare	dafa‘, yadfa‘	khelles (hab. tskhellis)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
peace	pace	ṣulḥ	aḥa, hna ; (make peace) miufu, miafu
pen	penna	qalam	rish (<i>pl.</i> -at), takenfut (<i>pl.</i> tiq-din) alam (<i>pl.</i> -at)
pennant	fiamma	'alam	
periscope	periscopio	periskop	
Persia	Persia	Bilād al-'Ajam	Pers
Persian	Persiano	'Ajami, Fārisi	afersi
people	gente, popolo	nās	jens (<i>pl.</i> jenas)
pepper	pepe	filfil	ifelfel
photograph (<i>n.</i>)	fotografia	fotogrāf, ṣūrah	
pickaxe	piccone	mi'wal	agelzim (<i>pl.</i> igelziam)
picket (<i>n.</i>)	picchetto	khafar	tagust (<i>pl.</i> tigusa)
pier	molo	raṣīf, musan- nāyah	
pig	maiale	khinzīr (<i>pl.</i> khanāzīr)	K. ilf (<i>pl.</i> ilfan). S. khanzer
pillow	guanciaie	wisādah, makhaddah	tasumta (<i>pl.</i> tis—win)
pilot (<i>n.</i>)	pilota	qā'id al-mar- kab	tarqizt (<i>pl.</i> tir—zin)
pilotage	pilotaggio	qiyādah	assaf
pincers	tanaglie	kalbah	taghumdel (<i>pl.</i> tighum- din)
pistol	pistola	ṭabānjah	lebeshtolan
place (<i>n.</i>)	posto	makān (<i>pl.</i> amākin)	amkan (<i>pl.</i> imukan), muda ; (<i>v.</i>) sers, sghim
plain (<i>n.</i>)	pianura	ṣaḥrā, maidān	(ground) taqsult ; (<i>evi-</i> dent, <i>adj.</i>) mubin
plant (<i>n.</i>)	pianta	naḥāt (<i>pl.</i> naḥātāt)	negla (<i>pl.</i> -at) ; (<i>coll.</i>) imghien
plate	piatto	ṣaḥn (<i>pl.</i> ṣuḥūn)	tarbut (<i>pl.</i> tirba), tidek- kit ; (wood) jfen
play (<i>v.</i>)	giuocare	la'ib, yal'ab	urar, lab
pleasant	piacevole	laṭīf	iajeb (3 <i>p. sing.</i>)
pleased, to be	essere contento	imbasat, yam- basit	ferah is—
plough (<i>n.</i>)	aratro	miḥrāth, fad- dān	mawn (<i>pl.</i> muan)
plunder (<i>v.</i>)	saccheggiare	nahab, yan- hab	haus

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
pony (baggage)	cavallino	ḥiṣān al-ḥaml, kidīsh	qesh gondiu
pontoon	barca (da ponte)	jīsr naqqāl	meks
pool	stagno	birkah, ḥaudh	-agulmim (<i>pl.</i>) igmen
poor	povero	faqīr, miskīn	igellil (<i>pl.</i> ig—en), aza-wali
pork	carne di porco	laḥm khinzīr	K. aysum n ilf. S. aksum n anzer
port	porto	mīnā (<i>pl.</i> mawānī)	mersa
port (of ship)	babordo	jānib al-aisar	gherazelmad
hard-a-port	voltare di babordo	ila jānib al-aisar	
porthole	finestrino	shubbāk	tadwiqt n-merkeb
post-office	ufficio postale	bōṣṭah	(post-station) viro ne-bosta
potato	patata	batāṭah	batata
pour out	versare	sakab, yaskub	smir (<i>hab.</i>) smiri, sureg
powder (gun-)	polvere	bārūd	K. and S. (gun-) barud ; (<i>ord.</i>) ghbar, taka
praise (<i>v.</i>)	lode	madaḥ, yam-daḥ	sheker, (<i>hab.</i>) shekker, kaber ; (<i>n.</i>) shker, shekran
prefer	preferire	fadhḥdhal, yufadhḥdil	khetir ; (preference) akhtiri
prepare	preparare	ista'add, yasta'idd	hejji-suged ; (be prepared) hejji-iman ; (prepare it) hejji-s ; (preparation) ahejji)
pretty	grazioso	jamīl	ashebban (<i>pl.</i> ish—en), imshebbah
price	prezzo	thaman	azal, ashal, haqq ; (what price) ashal ?
prison	prigione	ḥabs	hebs (<i>pl.</i> hibus) ; prisoner) amahbus (<i>pl.</i> imah bas) ;
prisoner	prigionero	mahbus masjun	(prisoner of war) aserhan
private (soldier)	soldato privato	nafar	askarin (<i>pl.</i> ia—wen)
private (room, &c.)	privato	khuṣūṣi	abadni, wahd

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
projectile	proiettile	qadhīfah (<i>pl.</i> qadhā'if)	kura (<i>pl.</i> -at)
promise (<i>v.</i>)	promettere	wa'ad, ya'id	w'ad (hab.) tw'aid, ahed ; (<i>n.</i>) w'ad, ahd
propeller	propulsore, elica	laulab, daulāb	imdemmer
province	provincia	wilāyah	amala (<i>pl.</i> -at)
pump (<i>n.</i>)	pompa	ṭulumbah	trumba (<i>pl.</i> -at)
punish	punire	'āqab, yu'āqib	'aqeb, a'aqeb ; (punish- ment) 'aqab, 'aquba
pursue	inseguire	tatabba', ya- tatabba' or ta'aqqab, yata'aqqab	teba (hab. tsaba), defer (hab. tafar), eddu
put	mettere	ḥatt, yahutt or wadha', yadha'	sers (hab. srusu), uqem ; (put away) eks, err-di- tarf ; (put out light) sekhsi, sensi
puttee		lifāfat ar-rijl	
quarantine	quarantina	maḥjar ṣiḥḥi, qarantīnah	āzal
quarter (<i>v.</i>)	alloggiere	askan, yuskin	amur-wis-arbaa, rba (<i>pl.</i> rbua)
quay	molo	raṣīf	meks
quick	presto	sarī'	akhfif, khfif (<i>pl.</i> -it) ; (quick !) ghiulet !
quickly	presto	sarī'an	
quiet	tranquillità	hādi	mhenni ; (be quiet) henni ; (<i>imp.</i>) sau ! hess !
quilt	coltre	liḥāf	tafersadit
raft	zattera	kalak	abdah
rails	linea	khuṭūṭ ḥadīdīyah	
railway	strada ferrata	sikkat al-ḥadīd	
railway-station	stazione	maḥaṭṭah	angar
rain (<i>n.</i>)	pioggia	maṭar	ehwa ; (heavy r.) agfur unt
ram (<i>v.</i>)	arietare	naṭah, yantiḥ	ikerri-afahli
range		masāfah, mada	asiwod
rarely	raramente, di rado	nādiran	qlil, drus
read	leggere	qara, yaqra	gher (hab.) qar

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
ready	pronto	hādhir	(get r.) nejji, sujed; (be r.) ujed, nejji; (it is r.) iujed
rear	indistro	warā	dfir
rearguard	retroguardia	mu'akhkhar al-'askar	tassast n-dfir
reckless	temerario	jasūr, ghair muktarith	urhazebara
recruit	coscritto	'askari jadīd	(v.) jema
red	rosso	aḥmar	K. azegwar (<i>pl.</i> iz-ghen). S. azeqagh
refuse (v.)	rifiuto	aba, ya'ba	agwi, gemmi; (refusal) tagwain, tagain
regiment	reggimento	ālai, fauj	ghid (hab.) tsghid fell—
regret (v.)	rincrescere	asif li- ya'saf li-	nedem; (n.) qrah, hzen
regulation	regola, ordine	qānūn (<i>pl.</i> qawānīn)	s-elqanun
reinforcements	rinforzi	madad	aiwen, ghit
reins	redini	'inān, zimām	aljam (<i>pl.</i> il-men)
release (v.)	rilasciare	aṭlaq, yuṭliq	beru (hab.) berru, deleq
reliefs	sollievi	madad	ghit
remain	restare	baqi, yabqa	qim (hab.) tsghimi; (r. over) aqer
remember	ricordare	tadhakkar, yatadhakkar	mekti (hab.) tsmektaye, shefu
repeat	ripetere	karrar, yukarrir	aiwed (hab.) tsaiwad
report (v.)	riferire	qarrar, yuqarrir	qirred fell —, fesser
report (n.)	rapporto	taqrir	bian
reserve (n.)	riserva	radif	āzal
resistance	resistenza	muqāwamah, difā'	s-ha
resolute	risoluto	thābit, 'āzim	ettef deg —, amnam- mer; (resolution) agzam
rest (v.)	riposare	istarāh, yastariḥ	(repose) astafu; (re- mainder) iugaren
restaurant	restorante	maṭ'am	taberna
result	risultato	natijah	adfar
retreat (n.)	ritirata	taqahqur	tughalin

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
retreat (<i>v.</i>)	ritirare	adbar, yudbir	ukher(hab.) tsukhir, ruel
return (<i>v.</i>)	ritornare	raja', yarji'	ughal, (<i>intrans.</i>) negleb (hab) tsneqlab, (<i>trans.</i>) qeleb; (<i>n.</i>) tughalin
revolution (revolt)	rivoluzione	thaurah	nfaq, fetna
revolver	revolver	musaddas, warwar	busetta
rheumatism	reumatismi	waja' al-mafā- şil	satur
rib	costola	<u>dhil'</u> (<i>pl.</i> <u>dhulū'</u>)	aberd (<i>pl.</i> ib-en)
rice	riso	ruzz	ruzz
rich	ricco	ghani	asai (<i>pl.</i> is-en), amer- kanti
ride	montare a cavallo	rakib, yarkab	rekeb (hab.) rekkeb
riding-horse	cavallo da mon- tare	hişān ar- rukūb	'audiu ar rekeb
rifle	fucile	bunduqiyah	temekhalt (<i>pl.</i> tim-lin)
right	bene	yamīn (right hand), muşib (correct)	(side) idis aifus, d-el haqq
right away	'pronti'	hālan!	swaswa, ilha
right (of direc- tion)	a destra	mustaqīm, 'adl	idis aifus
ripe	mature	nādhij, rā'ij	ibbwān; (ripen) ebūn
river	fiume	nahr (<i>pl.</i> anhār)	asif (<i>pl.</i> isafen)
road	strada	ṭarīq (<i>pl.</i> ṭuruq)	abrid (<i>pl.</i> iberdan)
road (camel)	carovaniera	ṭarīq al-jimāl	abrid n ghum
road (mule)	mulattiera	ṭarīq al-bighāl	abrid g-assadun
road (metalled)	strada (rotabile)	shārī' muzal- laṭ	abrid iqad
road (unmetalled)	strada	ṭarīq wa'ir	abrid (<i>pl.</i> iberdan)
rock (<i>n.</i>)	roccia	şakhr (<i>pl.</i> sukhūr)	aslad (<i>pl.</i> is-en), kaf (<i>pl.</i> kifan)
rocky	roccioso	şakhri, wa'ir	ahsam, aşfah
roof	tetto	saqf	sqef (<i>pl.</i> squf)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
room	stanza	ḥujrah	(space) amkan, tahri; (private) takhamt (<i>pl.</i> tikh—min)
root	radice	aṣl	azar
rope	corda	ḥabl (<i>pl.</i> ḥibāl)	arugwad (<i>pl.</i> ir—en), amrer
rotten	marcio	fāsid, (smell- ing) muta- 'affin	irka (3 <i>per. s.</i>); (go r.) reku
rough	ruvido, aspro	khashin	(violent) shdid; (sur- face) arshan; (rude) uqbih
round	rotondo, intorno	mudauwar	(<i>adj.</i>) amduer; (<i>prep.</i>) eddur; (turn r.) ezzi
row (<i>v.</i>)	remare	jadhaf, yajdhuf	qadef
ruddy	rubicondo	aḥmar	ademdam (<i>pl.</i>) id-men
ruins	rovine	kharābāt	anaghluve
run	correre	jara, yajri	azzel (<i>hab.</i>) tsazzal, zir- zer; (run away) ruwel, qerqer
rushes	canne	qaṣab	semmar
Russia	Russia	Rūsiyah	Rusiyah
Russian	Russo	Rūsi	aruss
sack	sacco	kīs	tashkast (<i>pl.</i> tishkarin)
sad	malinconico	ḥazīn	amahzun (<i>pl.</i> imahzan), amaghduḍ
saddle (<i>n.</i>)	sella	sarj	tarikht (<i>pl.</i> tirika); (for mules, &c.) aberdāa; (put saddle on!) serrej! uqem aberdaa
saddle (<i>v.</i>)	sellare	asraj, yusrij	tarikht (<i>pl.</i> tarika)
saddlebag	bisaccia	khurj	taqrabt (<i>pl.</i> tiq-bin)
safe (<i>adj.</i>)	salvo	āmin	salem p—in; (safety) aman, hna
sailing-vessel	barca a vela	safinah shurā'iyah	markeb qla'a
sailor	marinaio	mallāh	abahri (<i>pl.</i> ib—ien)
sails	vele	qilā'	qla'a
salt	sale	milah	melh
salute (<i>n.</i>)	saluto	tahiyah, salām	salam
salute (<i>v.</i>)	salutare	sallam, yusallim	sellem fell-

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
sally out (v.)	farcuna sortita	kharaj 'ala, yakhruj 'ala	effegh (hab.) teffegh
same	lo stesso	mithl, naẓīr	iun ; (it's all the same) d-iun d-iun
it is the same	é lo stesso	hua bi-'ainihi	d-iun
this is the	questo é lo stesso	hādha mithl	akka ula ghef-
same as that	di quello	dhāk	
sand	sabbia	raml	rmel, aremli
sandbank	banco di sabbia	shaṭṭ ramli	tafza
sandy	sabbioso	ramli	deg-s ijdi
Saturday	Sabato	Yaum as-sabt	essebt
saucepan	casserola	qidr	takasrut (pl. tik-nen)
save	salvare	anqadh, yunqidh	sellek, mena-seg
saw (n.)	sega	minshār	tamenshart ; (v.) necher
say	dire	qāl, yaqūl	ini (hab) qar; (can't say) missen! uressenegh ara
I say	io dico	aqūl	d'a qaregh. S. qa qaregh
thou sayst	tu dici	taqūl	d'a th qar-dh qa thqardh, &c., &c.
he says	egli dice	yaqūl	d'a iqar
we say	noi diciamo	naqūl	d'a n-qar
you say	voi dite	taqūlūn	d'a th-qar-m
they say	loro dicono	yaqūlūn	d'a qar-en
I shall say	io dirò	sa-aqūl	ad innigh
I said	io dissi	qult	innigh
scarcely	appena	nādiran	tura kan s-latab
scatter	spargere	nathar, yan- thur	uzza
school	scuola	maktab (pl. makātib)	graia (pl. -at) ; (school- master) shikh (pl. shiukh)
scissors	forbici	miqass	amenghar (pl. im-en)
scout (n.)	esploratore	rā'id (pl. ruwwād)	berri
screw	elica	laulab, daulāb	meghzal
(propeller)			
sea	mare	bahr	bhar (pl. bhur)
searchlight	riflettore	nūr barqi	
season	stagione	faṣl	fsel (pl. fsul)
sea-wall	muraglia	musannāyah	

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
secret (<i>n.</i>)	segreto	sirr (<i>pl.</i> asrār)	serr, badina
secret (<i>adj.</i>)	segreto	sirri	ifferen
secretary	segretario	kātib	khuja (<i>pl.</i> khuaj)
secretly	segretamente	sirri, makh- fiyan	(he went secretly) ilehua s-tuffera
see	vedere	shāf, yashūf <i>qr</i> ra'a, yara	wali (<i>hab.</i>) tswali, zer
seek	cercare	ṭalab, yaṭlub <i>or</i> fattash, yufattish	qelleb (<i>hab.</i>) tsqellib
seize	afferrare	qabadh 'ala, yaqbidh 'ala	ettef (<i>hab.</i>) tsattaf
self	se stesso	nafs (<i>pl.</i> nufūs)	(myself) nek s-iman- <i>iu</i> ; (thyself) ketoh s-iman- ek ; (himself) netsa si iman-is
sell	vendere	bā', yabī'	K. zenz (<i>hab.</i>) znuzu. S. ganzawaq
semaphore	semaforo	simafor	
send	mandare	arsal, yursil	shega ; (send away) shega abrid enniden sughal
sentry	sentinella	ghafir (<i>pl.</i> ghufarā)	assas (<i>pl.</i> yassasen)
separate	separare	farraq, yufarriq	fereq (<i>hab.</i>) ferreq (<i>adj.</i>) wahd, afrid
September	Settembre	Ailūl	shtember
sergeant	sergente	chāwūsh	
servant	servitore	khādim	K. aqeddash, <i>pl.</i> iq—en. (<i>fem.</i> taqeddasht, <i>pl.</i> tiq—shin) ; akheddam <i>pl.</i> ikh—en. S. tiya
serve	servire	khadam, yakhdim	khedem, qeddesh ghef
sew (<i>v.</i>)	cucire	khaiyat, yukhaiyit	khid
sextant	sestante	suds dā'irah	
shade (<i>n.</i>)	ombra	zill	K. tili. S. til
shake	scuotere	nafadh, yan- fudh	huzz, zaza
shallow	basso fondo	qīsh, dhahl	shwitaman
shave (<i>v.</i>)	radere	ḥalaq, yaḥliq	settel (<i>hab.</i>) tsettil

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
sheep	montone	kharūf (<i>pl.</i> khirfān)	K. ikerri (<i>pl.</i> akraren). S. egait and hawoly. (sheepskin) K. aglim. S. aqlim
sheet	lenzuolo	sharshaf	mlef
shell (<i>n.</i>)	proiettile	qumbulah (<i>pl.</i> qanābil)	kura (<i>pl.</i> -at)
shell (<i>v.</i>)	bombardare	rama bil-qanā- bil, yarmi bil- qanābil	qebbeb, bumbat degger
ship	bastimento	markab	markeb (<i>pl.</i> mrakeb)
shoe (<i>n.</i>)	scarpa	na'ī	K. arkas (<i>pl.</i> ir-en), tabumaqt (<i>pl.</i> tib-qin). S. adsarbin
shoe (<i>v.</i>)	ferrare un cavallo	na'al, yuna'īl	arkas (<i>pl.</i> ir-en)
shoot	tirare	rama, yarmi or qauwas, yuqauwis	sufegh-lujh
shop	bottega	dukkān (<i>pl.</i> dakākin)	makhzen, akham- lekhzin
shore	riva, spiaggia	sāhil	shott (<i>pl.</i> shtutt), rif (<i>pl.</i> riaff)
short	corto	qaṣīr	agezlan, auzlan
shot	colpo	ramyah, iṭlāq	tramit; (lead) tarsast
shoulder	spalla	katif (<i>dual</i> katifain)	taits (<i>pl.</i> twiats)
shout (<i>v.</i>)	gridare	sāh, yaṣīh	agged, sugh; (<i>n.</i>) aiad and aggad; (shout!) sugh!
shovel (<i>n.</i>)	pala	miḥfar	talwilet
show (<i>v.</i>)	mostrare	aḥzar, yuḥzir	seken (<i>hab.</i>) sekan, snat; (appear) deher
shrapnel	granata	shrapnel	sergel, medel
shut (<i>see</i> close)	chiudere	sadd, yasudd	K. aden, nelek. S. utin
sick	malato	marīdh	idis (<i>pl.</i> idisan)
side	lato	jānib	ahsar
siege	pigliare	muḥāṣarah	(of gun) tadwiqt n elmi- zan; (sense) izri;
sight (of gun)	vista	nishān	(view) tamughli, S timezrint

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
signal	segnalare	ishārah	alam (<i>pl.</i> -at)
silent, to be	silenzioso (essere)	sakat, yaskut	asusam (<i>pl.</i> is-en) ; (be s.) susem
silting	melma	radm, imtilā	n-fta
silver (<i>adj.</i>)	d'argento	min fidh ^h dhah	fta
silver (<i>n.</i>)	argento	fidh ^h dhah	segmi ; (time) deg, seg, ghef
since	dopo	mundhu	seksheṃ
sink (<i>trans.</i>)	affondare	gharraq, yu- gharriq	ghereq
sink (<i>intrans.</i>)	affondarsi	ghariq, yaghraq	
sister	sorella	ukht (<i>pl.</i> akhawāt)	K. and S. ultema (<i>pl.</i> istema) ; (sister - in - law) tadeqwalt
sit	sedere	jalas, yajlis	qim (<i>hab.</i>) tsrimi
skilful	abile	māhir	abbaj (<i>pl.</i> awbaj), akhfif
skin (inflated)	pelle	qirbah	(<i>gen.</i>) agulim, aglim (<i>pl.</i> igelman), ajlid ; (water) aglim naman ; (bag of skin) tailut ; (for bed) aglim-ne-frash
slaughter (<i>n.</i>)	macello	dhabh	eugh, ghided ; (animal) zelu
slaughter (<i>v.</i>)	ammazzare	dhabah, yadh ^h bah	engh (<i>hab.</i> ingha)
sleep (<i>n.</i>)	sonno	naum	ids, taguni
sleep (<i>v.</i>)	dormire	nām, yanām	K. ets, ids. S. attas. (be sleepy) naddem
sleeve	manica	kumm (<i>pl.</i> akmām)	takummamṭ
slow	lento	baṭī	azaian (<i>pl.</i> iz-en) ; (be slow) zaye
slowly	lentamente	yawāsh, 'ala mahl	s-tazit, s-tul, s-ubtu
small	piccolo	ṣaghīr	K. amzian (<i>pl.</i> im-en), mezzi. S. ahkuk
smaller	piu piccolo	aṣghar	
smell (<i>n.</i>)	odore	rā'ihah	(good) riha ; (bad) K. afuhu. S. senut
smell (<i>trans.</i>)	odorare	shamm, yashumm	srih

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
smell (to stink)	puzzaro	ta'affan, yata'affan	fuh
smoke (<i>n.</i>)	fumo	dukhān	abu, dkhan
smoke (<i>v.</i> tobacco)	fumare	sharib ad-dukhān, yashrab ad-dukhān	K. su dukhan. S. su tabagh
smooth	liscio	amlas	mezi, aleggwar
snow (<i>n.</i>)	neve	thalj	adfel
soap	sapone	ṣābūn	sabun
soft	morbido	nā'im	aleqqaq (<i>pl.</i> il-en), azidan
soldier	soldato	'askari, jundi	K. askerin (<i>pl.</i> yaskeri- wen). S. askar
solid		ṣalb, matīn	mase iun (<i>fem.</i> iweth)
some one			
sometimes	qualche volta	ba'dh al- auqāt, ihyānan	tiswain, kra-iberdan
somewhere	in qualche posto	fi makānin mā	deg abad imudan
son	figlio	ibn	emmi (<i>pl.</i> arran); (son- in-law) adegwal (<i>pl.</i> id- len)
song	canzone	ghinā (<i>pl.</i> aghāni)	ghna (<i>pl.</i> aghani)
soon	presto	'an qarib	qrib, grib
sound (<i>adj.</i>)	sano	sālim	d-essalem
sound (<i>n.</i>)	rumore	ṣaut (<i>pl.</i> aṣwāt)	sut; (of instruments) atenten
sounding	scandagliare	miqyās al-mā	qias n-bher
soup	minestra	shurbah	asqi
sour	agro	hāmīdh	asemmam (<i>pl.</i> sem- mumit)
sour milk	latte agro	laban	ighi
south	sud	janūb	dahra, qibla
southern	meridionale	janūbi	uqebli
spade	vanga	mishāt	agelzim (<i>pl.</i> ig—ziam)
spark	scintilla	sharārah	iftiuj (<i>pl.</i> -en)
speak	parlare	takallam, yatakallam	K. neteq. S. siwil
specially	specialmente	khuṣūṣan	labada
speed	rapidità	sur'ah	kheffa, zerb

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
spirits	alcol, spirito	'araq	araki
spoon	cucchiaio	mal'aqah	taghenja (<i>pl.</i> tigh—win)
spring (season)	primavera	rabi'	tafsut
spring (of water)	sorgente	'ain mā	K. tala (<i>pl.</i> tiliwa). S. tott.
spur	sperone	mihmāz	ashbur (<i>pl.</i> ish—en)
squadron (nautical)	squadra	dunanmā	jmaāa
squall (wind)	burrasca	nau (<i>pl.</i> anwā)	zahta (<i>pl.</i> -at)
square (<i>adj.</i>)	quadrato	murabba'	tamrabbait (<i>pl.</i> tim—ain)
stable	stalla	iṣṭabl, akhūr	adainin
staircase	scala	daraj	druj
stalks (of millet or maize)	stelo	sāq, qaṣab	taranimt (<i>pl.</i> tighunam), ighlel
stallion	stallone	fahl (<i>pl.</i> fuḥūl)	'audiu (<i>pl.</i> ia—wen)
stand (<i>v.</i>)	stare in piedi	waqaf, yaqif or qām, yaqūm	bedd; (<i>s.</i> up) bedd! (stand still) sehbes; (<i>exclam.</i>) neqorat!
star	stella	najm (<i>pl.</i> nujūm)	K. itri p itran. S. erg
starboard	tribordo	jānib al-aiman	idis aipas
hard - a - star-board	voltare di tri-bordo	ila jānib al-aiman	
state (condition)	stato	ḥāl (<i>pl.</i> aḥwāl)	hala (<i>pl.</i> hual)
station (railway)	stazione	maḥaṭṭah	menzel (<i>pl.</i> mnazel); (<i>s.</i> stoppings) menzel-akken-raha
steal	rubare	saraq, yasruq	K. aker. S. sharaq
steam	vapore	bukhār	aragwet
steamer	vapore	markab bu-khāri	babur
steel (<i>n.</i>)	acciaio	būlād	dgir
steel (<i>adj.</i>)	di acciaio	min būlād	
steering-gear	timone	ālat al-idārah	dman (<i>pl.</i> -at)
stem (of ship)	prua	muqaddam al-markab	ikhf amzuaru n-elbabur
stern	a poppa	mu'akhkhar al-markab	dfir n-elbabur
steward	cameriere	khādim	aqshish

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
stick (<i>n.</i>)	bastone	‘aṣa, qadhīb	takkwazt (<i>pl.</i> tiawzin)
still (<i>adv.</i>)	ancora	ilalān	mazal
stirrups	staffe	rikāb	K. rkab (<i>pl.</i> -at). S. rikab. (stirrup leather) arugwad-ne-rkab
stock (of a gun)	canna di fucile	qundaq (<i>pl.</i> qa-nādiq)	srir (<i>pl.</i> srair)
stoker	fochista	nāri, ātashji	
stomach	stomaco	ma‘idah	kersh (<i>pl.</i> krush)
stone	pietra, sasso	ḥajar	K. and S. adghagh (<i>pl.</i> id—ghen)
stony	sassoso	ḥajari	ahsam (<i>pl.</i> ih—men)
stop (<i>intrans.</i>)	fermarsì	waqaf, yaqif	sbedd ; (desist) sehbes
stores	provvigioni	dhakhīrah, dhakhā‘ir	(shop) mekhzen
storm	temporale	zauba‘ah	ghimra, swisha
stormy	tempestoso	‘aṣif	itsghumeren
straight	diritto	‘adil, mustaqīm	deg luqam ; be straight, (moral) asduqi, (phys.) uzzilen
strange	strano	gharīb	imkhalef (<i>pl.</i> -in); (stranger) aberrani (<i>pl.</i> ib—ien)
strap	cinghia	sair	arugwad (<i>pl.</i> ir—en)
strategy	strategia	fann al-ḥarb	
straw	paglia	tibn	K. alim ; (long) adellās. S. lum. (straw shelter) taseddarit n alim
straw (rice)	paglia di riso		alim n-ruzz
stream	ruscello	nahr ṣaghīr	K. amzian-asif. S. tatt
street	via, strada	shārī‘	abrid
strength	forza	quwwah	tazmert, zwer
strike	picchiare	dhārāb, yadhrib	uut, (hab.) kat
strike camp	levare (un campo)	qala‘ al-khiyam, yakhla‘ al-khiyam	sider iqudunen
string	spago	khait	eks ishlah
strong	forte	qawī	asbailu, tizikert
stupid	stupido	balid, aḥmaq	zwer, zemir
			abahlul (<i>pl.</i> ibahlal), auguf

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
submarine	sottomarino, sommersibile	ghauwāsh	
suddenly	ad un tratto	bil-marrah, fuj'atan	mebla-tubnin, bin-u-fih, bin enfi
sugar	zucchero	sukkar	sker
sugarcane	canna da zucchero	qaṣab as- sukkar	aghanim n-esukor
suitable	adatto	muwāfiq	laq, hesen
summer	estate	ṣaif	anebdu
sun	sole	shams	K. itij. S. tfukt
Sunday	Domenica	Yaum al-aḥad	il had
sunrise	levar del sole	ṭulū' ash- shams	ishreq-ed itij
sunset	tramonto	ghurūb ash- shams	maghreb
supplies	provvigioni	ma'ūnah, ta'- dīyah	elaish, tamdisht, muna
surgeon	chirurgo	jarrāḥ	jerrah (<i>pl.</i> -hin)
surrender (<i>see</i> give in)	arrendersi	sallam, yusal- lim	efk maina
suspected	sospetto	maznūn	amshekki
sweet	dolce	ḥulw, 'adhḥ (<i>water</i>)	azidan (<i>pl.</i> iz—en)
swim (<i>v.</i>)	nuotare	sabah, yasbah	K. awm, sebeh. S. sef
sword	spada	saif (<i>pl.</i> suyūf)	K. iskin (<i>pl.</i> -en). S. awiss
Syria	Siria	Bilād ash- Shām, Sūriya	Sham
table	tavola	mā'idah	tabla (<i>pl.</i> tuabla)
tactics	tattica	tadābir al-ḥarb	
take	prendere	akhadh, ya'khudh	ettef ; (<i>away</i>) eks
talk (<i>v.</i>)	parlare	takallam, yatakallam	mteq (<i>hab.</i>) temteq
tall	alto	ṭawīl	K. 'alaye (<i>high</i>), amoq- ran. S. azwaraf
tame	domestico, mansueto	alif, ahli	imrebba (<i>pl.</i> -ien)
target (<i>mark</i>)	bersaglio	hadaf, nishān	nishan
taste (<i>v.</i>)	assaggiare	dhāq, yadhūq	'ared (<i>hab.</i>) tsarrid, (<i>n.</i>) (<i>sense</i>) imi ; (<i>flavour</i>) benna

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
tea	té	shāi	ti, taye
teach	insegnare	'allam, yu'allim or darras, yudar- ris	sgher, sahfed ; (teacher) mallem (<i>pl.</i> -in)
tear (<i>v.</i>)	stracciare	mazzaq, yumazziq	sherreg (<i>hab.</i>) tssherrig ; (clothes, &c.) kherreq
telegraph (<i>n.</i>)	telegrafo	telegrāf	legraf
telegraph-office	ufficio tele- grafico	telegrāf- khānah	biro n-legraf
telescope	telescopio	nāzūr	
tell	dire, raccontare	qāl li-, yaqūl li-	ini. (<i>hab.</i>) qar
tent	tenda	khaimah (<i>pl.</i> khiyam)	K. ashluh (<i>pl.</i> ishlah). S. takhimt ; (to pitch tent) sbedd ashluh ; (strike t.) sider-ashluh
tent-peg	pinolo	watad (<i>pl.</i> autād)	tagust (<i>pl.</i> ti—sin)
tent-rope	corda da tenda	ṭanāb (<i>pl.</i> aṭnāb)	aruguad g-ishlah
than	di	min	ghef-, fell-, khir en
thank	ringraziare	shakar, yashkur	sheker, err-elkhir (thank you) iketter- khir-ik, (polite) (<i>pl.</i> khir-kun) ; (thanks) ashker, khir
that (<i>conj.</i>)	quello	ann	ar <i>w. verb future</i> , akken <i>w. verb future often omitted. Verb used in pres. or future ; (adv.)</i>
that (<i>pron.</i>)	che	dhālik (<i>fem.</i> tilk)	ai, (<i>m.</i>) wahi, (<i>f.</i>) thahi
thaw (<i>n.</i>)	sgelo	dhawabān	
thee	tu	-ka (<i>fem.</i> -ki)	K. kech (<i>fem.</i> kem) ; <i>w. v. direct (suff.)</i> -k (<i>fem.</i> -kem) ; <i>w. v. in- direct (suff.)</i> -ak, -iak (<i>fem.</i> -am, -iam). S. shek ; (<i>dir. w. v.</i>) -ik, imsik ; (<i>indir.</i>) -ak.

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber</i>
their	il loro	-hum, -him (<i>fem.</i> -hunna, -hinna)	ensen (<i>fem.</i> ensent)
theirs	loro	mālum	en sen (<i>fem.</i> en sent)
them	loro	-hum, -him. (<i>fem.</i> -hunna, -hinna)	(<i>subj.</i>) nitni, nihni ; (<i>v.</i> <i>v. dir.</i>) -aten, -iten ; (<i>indir.</i>) -asen
then (at that time)	allora	'ind dhālik	di-lwoqt-enni, a-wamek ; (<i>v. future</i>) ini
then (after that)	dopo	thumma	dgha
thence	da li	min hunāk	sihin, sien, seg akinna
the other(s)	l'altro, gli altri	al-ākhar (<i>pl.</i> al-ākharūn), <i>fem.</i> al-ukhra (<i>pl.</i> al-ukhar)	enniden (<i>pl.</i> -in), waied (<i>pl.</i> wiiad)
there	li	hunāk	dinna ; (there he is !) atsan dinna, akinna
there is not	non c'è	laisa	ulash
thermometer	termometro	mizān al- ḥarārah	
these (<i>pron.</i>)	questi	hā'ulā	win, in (<i>pl.</i> widen), <i>fem.</i> tin (<i>pl.</i> tiden), enni, agi ; (these men) irga- zen agi, wi gi, <i>fem.</i> thi gi ; (of these) seg wigi, <i>fem.</i> si thigi
they	essi	hum (<i>fem.</i> hunna)	(<i>subj.</i>) nitheni (<i>fem.</i> ni- thenti) ; 3 <i>pers. plur.</i> <i>suff. vb.</i> -n, (<i>fem.</i> -nt)
thick	spesso, grosso, denso	ghalīz	azuran (<i>pl.</i> iz—en) ; (be t.) uzur
thief	ladro	ḥarāmi	amakur (<i>pl.</i> im—en), im- ekred (<i>pl.</i> imkerdan)
thimble	ditale	kushtubān	
thin	sottile, magro	raqīq	(emaciated) hezel, daf ; (inanimate) arqiq (<i>pl.</i> ir—en) ; (be t.) reqiq
thine	tuo	-ka (<i>fem.</i> -ki)	k, ek, ik (<i>fem.</i> m, im, am)
thing	cosa	shai	shi (<i>pl.</i> ashia)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
think	pensare	iftakar, yaf-takir	khemmem (hab.) tskhemmin; (believe) ghil, heseb
thirst (<i>v.</i>)	aver sete	'atish, ya'tash	fad (hab. tsfad)
thirsty	assetato	'atshān	faddan; (be t.) fad
this	questo	<u>hādha</u> (<i>fem.</i> <u>hādhihi</u>)	agi (<i>put after noun</i>), wa, win, (<i>fem.</i> tha, thin); (of this) b-wagi, (<i>fem.</i> en-tagi); (like this) akkagi, am agi
thither	la, cola	ila hunāk	dinna, din
those (<i>pron.</i>)	quelli	ūlā'ik	wi-hi (<i>fem.</i> tha-hi); (of those) b-wi hi, en thi hi
thou	tu	anta	ketch, -i, -ini (<i>fem.</i> kem, -i, -ini)
thread	filo	khaiṭ (<i>pl.</i> khuyūt)	(silk) K. asaru, S. tis-ilkit; (metal) khid-ilzwi; (cotton) asignu
threaten	minacciare	haddad, yu haddid	siugwad (hab. tsiugwad)
throat	gola	hālq	amqerd (<i>pl.</i> im—en)
thunder	tuono	ra'd	rawd
Thursday	Giovedì	Yaum al-khamīs	khmis
tick (<i>insect</i>)	zecca	qurād	aselluf
tidal	regolare periodico	<u>dhū</u> madd	
tide	marsa	madd wa-jazr	
tie (<i>vb.</i>)	legare	'aqad, ya'qud	(<i>inf.</i>) shidd, arez; (<i>inf. expr. by future</i>) ad' ishidd, ad' shidd
tight	stretto	ma'qūd	shdid (<i>pl.</i> -in); (be t.) dum
till	finché, fino	hatta	ar, armi-d, alarmi
time	tempo	waqt (<i>pl.</i> auqāt)	zman, waqt; (what is the time?) ashal es-saāa?
timid	timido	khā'if	akhawaf
tired	stanco	ta'bān	ain (hab.) aggu
to	a	ila	(direction) gher, ghur; (<i>dative</i>) i; (he said to his father) inna-ias i baba-s

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
tobacco	tabacco	dukhān	dkhan
to-day	quest' oggi	al-yaum	K. assa, assagi. S. asfa
toe	dito del piede	usbu' al-qa-dam	tifdent (<i>pl.</i> tifiednin)
to-morrow	domani	bukrah	K. azka. S. tafy
tongue	lingua	lisān (<i>pl.</i> alsinah)	K. ils (<i>pl.</i> ilsawn). S. eliss
to-night	questa notte	al-lailah	tham edith-a
tonnage	tonnellaggio	hamūlat al-markab	
too	anche	aidhan	akken, daghen ; (much) b-zaid, atas
tool	arnese, strumento	ālah (<i>pl.</i> ālāt)	duzan, aqruaj (<i>pl.</i> -en)
tooth	dente	sinn (<i>pl.</i> asnān)	K. ugl (<i>pl.</i> uglan), S. assen ; (tooth-brush) shita nugal ; (toothpick) missak (<i>pl.</i> im—en)
toothache	mal di denti	waja' al-asnān	aqrah n-tughmas
top-boot	stivali	jazmah	
torpedo (<i>n.</i>)	torpedine	lughm (<i>pl.</i> alghām)	
touch (<i>v.</i>)	toccare	mass, yamass	K. nal (hab.) tsnal. S. anali
tough	duro	ṣalb	aqoran
towards	verso	naḥw	ghir, ghur, ghel
towel	acsiugamano	fūṭah	abhannuq (<i>pl.</i> ibhannaq)
tower	torre	burj (<i>pl.</i> burūj)	sumaa (<i>pl.</i> swama)
town	citta	madīnah	tamdint (<i>pl.</i> timdinin)
track	traccia	athar ṭarīq	jerra (<i>pl.</i> -at), tirkīt (<i>pl.</i> din)
translate	tradurre	tarjam, yutarjim	terjem
translation	traduzione	tarjumah	terjema
treacherous	traditore	ghaddār	akhedda
tree (fruit)	albero	shajarah (<i>pl.</i> shajar)	tejra (<i>pl.</i> -at)
trench	trincea	khandaq (<i>pl.</i> khanādiq)	akhenduq (<i>pl.</i> ikhnadaq)
tribe	tribu	qabilah (<i>pl.</i> qabā'il)	'arsh (<i>pl.</i> 'arash), taqbilt (<i>pl.</i> qbail)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
trot (<i>v.</i>)	trottare	khabb, yakhabb <i>or</i> harwal, yuharwil	gluqel, rab'a
truce	tregua, armistizio	hidnah	mahadna
truck	carretta	'arabah	takarrust (<i>pl.</i> tik-sin)
true	vero, sincero	ṣaḥīḥ	n-tidet, n-sahh
try	provare	jarrab, yujar- rib	ared, beru
Tuesday	Martedì	Yaum ath- thalāthā	tlata
tug (boat)	rimorchiatore	markab jarrār	merkeb n-jered
Turk	Turco	Turki (<i>pl.</i> Atrāk)	Osmanli
Turkey	Turchia	Turkiyā	Turkuja
turn back	voltarsi in dietro	raja', yarji'	ezzi, beren (<i>hab.</i> berren)
turret	torricella	burj (<i>pl.</i> burūj)	sumāa
unconscious	insensibile	maghshi 'alaih	deg ur tsekigh
under	sotto	taḥt	eddau
understand	capire	fahim, yafham	fehem (<i>hab.</i> fehhem)
under way	salspare (<i>v.</i>)	musāfir	iqeddemen
undress oneself	spogliarsi	khala' ath-thi- yāb, yakhla' ath-thiyāb	eks-elhawaij
unexpected	inaspettato	ghair munta- zar	bin u fih
uniform (soldier's)	uniforme	kiswat 'askarī- yah	lebsa
unjust	ingiusto	zālim	(be u.) delem ; unjustly blalhaqq
unlucky	sfortunato	ghair maimūn	ameghbun (<i>pl.</i> im-ben)
unpleasant	spiacevole,	thaqīl, ghair laṭīf	idorren
unsuitable	disadatto	ghair munāsib	mderra (<i>pl.</i> -at)
untrue	non e vero, falso	ghair ṣaḥīḥ	ur n-tidets
us	noi	-nā (<i>suffix</i>)	(<i>subj.</i>) nukni, <i>fem.</i> nu- tenti ; (<i>reg. direct</i>) -agh ; (<i>indirect</i>) -iagh
use (<i>v.</i>)	adoperare	ista'mal, yas- ta'mil	stenf'a, (<i>hab.</i> stenfi'a), sekhdem
useful	utile	mufid	infa'an ; (be u.) nef'a, selah

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
useless	inutile	ghair mufid	ur-infi'i-ara, ur-islih-ara, batil
usually		'ādatan	g-ladda, s-ladda
vain, in	inultimente	'abathan	s-elbatel; (in vain he begged) s-elbatel ihall
valley	valle	wādi	uta (<i>pl.</i> wati), agaghar (<i>pl.</i> izughar)
valuable	di valore	thamīn	d-shau, n-shau
veal	vitello	laḥm 'ijl	agenduz
vegetables	legumi	mukhadh-dharāt	bqul (<i>sing.</i> bqel), khudra
vengeance	vendetta	tha'r, intiqām	tsar, qisas
verbally	verbalmenti	shifāhan	s-umeslaye
very	molto	jiddan, kathīr	atas, nezzeh, khir-lan
victory	vittoria	naṣr	aghlab, nasra
victuals	vitto	ma'kūlāt	aish, tamaisht; (army) muna
village	villaggio	qaryah (<i>pl.</i> qura)	K. taddart (<i>pl.</i> tuddar). S. khail
violent	violento	shadīd, 'anīf	shdid, amoqran, im-shaddi
visit (<i>n.</i>)	visita	ziyārah	azuru, tarzeft
visit (<i>v.</i>)	visitare	zār, yazūr	zur, rezef
voice	voce	ṣaut (<i>pl.</i> aṣwāt)	taghust, awal
voyage	viaggio	safar al-bahr	afer g-uaman
wade	passare a guado	khādh, zakhūdh	zeger, qeda
waist	vita	khīṣr	ammas
wait	aspettare	intazar, yan-tazir	reju, (hab. tsraju), gani; (<i>fut.</i>) at-reju; (don't wait) ur reju ara; (keep waiting) tsraju, ames-gani
wake (<i>trans.</i>)	svegliare	aiqaz, yūqiz	sakwi (hab. sakwaye), smdekwel
wake up (<i>intrans.</i>)	svegliarsi	istaiqaz, yas-taiqiz	akwi (hab. tsakwi)
walk (<i>v.</i>)	camminare	masha, yam-shi	lehu; (<i>fut.</i>) at lehu
wall	muro	ḥā'iṭ (<i>pl.</i> ḥitān)	hid (<i>pl.</i> hiud), ababed-dar (<i>pl.</i> ib—en)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
war	guerra	ḥarb	imenghi (<i>pl.</i> imenghan), timerzi; (<i>go to war</i>) hareb (<i>hab.</i> harreb)
warm	caldo	ḥārr	(<i>adj.</i>) yahman, amer- ghan; (<i>v. trans.</i>) saḥmu demen fell—; (<i>fut.</i>) ad- demen fell—
warn (<i>v.</i>)	avvisare	andhar, yun- dhir	sired (<i>hab.</i>) sirid; (<i>fut.</i>) ad siredegh (<i>1st pers.</i>) sired iman-is
wash (<i>trans.</i>)	lavare	ghasal, yagh- sil	
wash oneself	lavarsi	ightasal, yaghtasil	
waste (<i>trans.</i>)	sciupare	dhaiya', yudhaiyi' ori badhdhar, yubadhdhir	sekhser; (<i>fut.</i>) ad sekh- seregh (<i>1st pers.</i>)
watch (<i>v.</i>)	sorvegliare	haras, yahrus or naṭar, yaṇṭur	'ass (<i>hab.</i>) ts'assa; (<i>fut.</i>) ad-'assigh (<i>1st pers.</i>)
watch (<i>n.</i>)	orologio	sā'ah	sa'a (<i>pl.</i> -at)
watch (on ship)	guardia	naubah	t'assast
water	acqua	mā	K. and S. aman; (<i>clear</i>) aman-isfan; (<i>warm</i>) aman yahman; (<i>boil-</i> <i>ing</i>) aman rekeman; (<i>cold, fresh</i>) aman- isemmaden
water-bottle	boccia	zamzamiyah	taqrats
water-carrier	portatore d'acqua	saqqā	aseqqai (<i>pl.</i> is—qien)
waterskin	sacco di cuoio	qirbah	girba
wave (<i>n.</i>)	onda	mauj (<i>pl.</i> amwāj)	muja (<i>pl.</i> muaj); (<i>v.</i>) huzz, singugel
we	noi	naḥnu	(<i>subj.</i>) nukui, (<i>fem.</i>) nu- tenti; (<i>acc.</i>) -agh; (<i>dat.</i>) -iagh
weak	debole	dhā'if	K. adeif (<i>pl.</i> id—en), amdafu (<i>pl.</i> inadafa). S. azdad; (<i>weakness</i>) adaf, talwit
wear (<i>trans.</i>)	portare	labis, yalbas	(<i>clothes</i>) tswales; (<i>wear</i> <i>out</i>) stebala, jered

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
weather	tempo	hawā	(fair) et-tiab, hal
wedge	bietta	safin	tazzelt, udfir (<i>pl.</i> -rin)
Wednesday	Mercoledì	Yaum al-arba'ā	As-elarbaa
week	settimana	usbū' (<i>pl.</i> asābī')	durt (<i>pl.</i> duar)
weigh (<i>trans.</i>)	pesare	wazan, yazin	(<i>trans. and intrans.</i>) uzen (<i>hab.</i>) uzzen
weight	peso	wazn	tazit; (measure) mizan
well (healthy)	bene	muta'āfi	(<i>adv.</i>) swaswa, d-lati; (very) irbah; (<i>adj.</i>) islah (3 <i>p. s.</i>)
well (<i>n.</i>)	pozzo	(bir) (<i>pl.</i> ābār)	bir (<i>pl.</i> biar), awm
well (Persian wheel)		nā'ūr	
well-known	conosciuto	mashhūr	mashur (<i>pl.</i> -in)
west	ovest, occidente	gharḥ	gherb
western	occidentale	gharbi	gerbi
wet (<i>adj.</i>)	umido	mablūl	tshullekh; (wet season) bezeg; (get wet) bezeg, lutshekh
what	quello che	mā	anwa, ai, ag
what ?	che cosa ?	mā ?	ashu ? ash ?
wheat	frumento	hintah	K. and S. irden
wheel	ruota	'ajalah	tashernint (<i>pl.</i> tish—nin), tajerrart (<i>pl.</i> tij—rin)
when (<i>adv.</i>)	quando	idhā	mi, asmi, im (<i>w. fut.</i>); (when he comes) im ara-d-yus-id
when ?	quando ?	mata ?	melmi
whence	onde	min ain	ansi (<i>c. constr.</i> wa-)
whenever	ogni qualvolta	kulla mā	timeshki
where	dove	ain	(<i>adv.</i>) anida ? anda ? and (<i>c. constr.</i> wa); (<i>conj.</i>) anida, sani
wherever	dove	ainamā	kra ansi
whether . . .	sia . . . sia	hal (<i>or in</i>) . . . am	ma illa (<i>w. fut. imm.</i>); (wh. or not) mailla-negh-ur (<i>negat.</i>)
whip (<i>n.</i>)	frusta	saut	meshreb (<i>pl.</i> mshareb); (<i>v.</i>) jelqwed, derra

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
white	bianco	abyadh	amellal (<i>pl.</i> im—en)
whither	dove	ila ain	kani, gher wanda
who, which	che, il quale	alladhi (<i>masc.</i>), allati (<i>fem.</i>)	ai, ag, enni
who ?	chi ?	man ?	anwa ? (<i>pl.</i> anwi ?), <i>fem.</i> anta ? (<i>pl.</i> enti ?)
whole (<i>adj.</i>)	intero	sālim	kamel (<i>pl.</i> -in)
why	perchē	limā	ashumi, ashimi, ashu- ghef ; (that is why) ghef aiagi ghef (ghef— ahrawan (<i>pl.</i> ih—nen) ; awsaan
wide	largo	wasī	tajjalt (<i>pl.</i> tujjal)
widow	vedova	armalah (<i>pl.</i> arāmil)	tantut (<i>pl.</i> tilawin), taf- tust (<i>pl.</i> tiftusin) ; (new married w.) tislit (<i>pl.</i> tislatin)
wife	moglie	zaujah	lekhla, ajmi (<i>pl.</i> ia—en) khemmem, mlami
wild	selvaggio	wahshi	rebah ; (money) khelef
willing	compiacente	rāghib, muṭī	
win	vincere	ghalab, yagh- lib	adu ; (strong w.) ruma ; (south w.) aqebli
wind (<i>n.</i>)	vento	rīh	skur (hab. skuru)
wind (<i>v.</i>)	girare	dauwar, yu- dauwir	taqa (<i>pl.</i> twaqi)
window	finestra	shubbāk	izufen
windy	ventoso	hawā'i	shrab
wine	vino	sharāb, khamr	ifr (<i>pl.</i> afriun)
wing	ala	janāh	(wet season) K. shetiva. S. amzar
winter	inverno	shitā	khid-ilzwi
wire	fil di ferro	silk ḥadīd	bla khid legraf
wireless- telegraphy	telegrafia senza fili	telegrāf bi-lā silk	
wise	saggio	ḥakīm, 'āqil	amusni, ārif (<i>pl.</i> iarfa)
wish (<i>v.</i>)	desiderare	arād, yurīd	(<i>inf.</i>) beru (hab.) bequu ; (<i>fut.</i>) ad-beru, menni
with (instru- mental)	fra	bi-	s, si, is

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
with (accompanying)	con	ma'a	id, ok id
without	senza	bi-ghair, bi-dūn, bi-lā	bla, mebla, bghir
witness (<i>n.</i>)	testimonio	shāhid (<i>pl.</i> shuhūd)	inigi (<i>pl.</i> inigan)
wolf	lupo	dhī'b (<i>pl.</i> dhiyāb)	dib (<i>pl.</i> diab)
woollen	di lana	min šūf	talaba
woman	donna	imra'ah (<i>pl.</i> nisā)	see wife
wood (fuel)	legno	ḥaṭab	tashtabit
wood (forest)	bosco	ghābah	tizgi (<i>pl.</i> tizgwa), malu
word	parola	kalimah (<i>pl.</i> kalimāt)	ameslaye (<i>pl.</i> im—en)
work (<i>intrans.</i>)	lavorare	ishtaghal, yashtaghil	hedem (hab. kheddem)
work (<i>n.</i>)	laboro	shugl	khedma (<i>pl.</i> -at), shghel (<i>pl.</i> shughal)
world	mondo	dunya	dunit
worse, worst	peggio	sharr (min, <i>than</i>), asharr	d-iri ghef-; (be w.) la-itsen terraye (3 <i>pers.</i>)
worth (be)	valere	sāwa, yusāwi	(<i>n.</i>) azal, qima; (<i>vb.</i>) snu (hab.) tsnu
wound (<i>v.</i>)	ferire	jarah, yajrah	jarah (hab. jerrah)
wound (<i>n.</i>)	ferita	jurh (<i>pl.</i> jurūh)	jarh (<i>pl.</i> jruh)
wound-dresser	infermiere	rabbāṭal-jurḥa	akhedam n-sbitar
wounded	ferito	majrūh	amejruh; (be w.) tsu-jerrah
wreck (<i>n.</i>)	naufragio	markab madmūr	ghraq
wreckage	resti di un naufragio	damār	zelt n-ghraq
write	scrivere	katab, yaktub	aru (hab. tsaru), keteb (hab. ketteb)
I write	scrivo	aktub	kettebegh
thou writest	scrivi	taktub	the-ketteb-edh
he writes	scrive	yaktub	i-ketteb (<i>fem.</i> the ketteb)
we write	noi scriviamo	naktub	ne-ketteb
you write	voi scrivete	taktubūn	the-ketteb-em (<i>fem.</i> -mth)

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
they write	loro scrivono	yaktubūn	ketteb-en (<i>fem.</i> -ent)
I shall write	scrivero	sa-aktub	ad ketebeġh
thou wilt write	tu scriverai	sa-taktub	at ketebedh
he will write	egli scriverà	sa-yaktub	ad iketeb
we shall write	noi scriveremo	sa-naktub	ann keteb
you will write	voi scriverete	sa-taktubūn	at keteb-em (<i>fem.</i> femth)
they will write	loro scriveranno	sa-yaktubūn	ad keteb-en (<i>fem.</i> -ent)
I wrote	scrissi	katabtu	ketebeġh
thou wrotest	tu scrivesti	katabta	the keteb edh
he wrote	egli scrisse	katab	i-keteb
she wrote	ella scrisse	katabat	the-keteb
we wrote	noi scrivemmo	katabnā	ne-keteb
you wrote	voi scriveste	katabtum	the-keteb-em (<i>fem.</i> emth)
they wrote	loro scrissero	katabū	keteb-en (<i>fem.</i> ent)
I do not write	non scrivo	lā aktub	ur kettebeġh ara
he does not write	egli non scrive	lā yaktub	ur i-ketteb ara
we do not write	noi non scriviamo	lā naktub	ur ne-ketteb ara
you do not write	voi non scrivete	lā taktubūn	ur thekettebemara
they do not write	loro non scrivono	lā yaktubūn	ur ketteb-en ara
do you write ?	lei scrive ?	hal taktubūn?	the-kettebedh kera ?
wrong	male	ghair ṣaḥīḥ, khaṭa	(<i>adj.</i>) amzuwer; (<i>adv.</i>) d-ir, d-ihwah; (wicked) d-ir, hraimi
yacht	yotte, lancia	yakht (<i>pl.</i> yukhūt)	yakht
yard (measure)	metro, solo, 96 centimetri	dhirā'	mitra (<i>pl.</i> -at)
year	anno	sanah (<i>pl.</i> sinīn)	asegwas (<i>pl.</i> is—en), sua (<i>pl.</i> suin)
yellow	giallo	aṣfar	awragh (<i>pl.</i> in—en)
yes	si	a'am	ih, i ; (yes indeed !) be-sahh ! ubesahh !
yesterday	ieri	ams	idelli, ams
yet (of time)	ancora	ba'd	ur dad, ma dad
nevertheless	nondimeno	ma'a kull dhā-lik	(still) ur-dad, ma-āad (but still) lakīn, walakīn

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
you	voi	antum (<i>after prep. or v., -kum</i>)	kunui, <i>fem.</i> kunemti; (<i>acc. w. v.</i>) kun, <i>fem.</i> kunt; (<i>dat. w. v.</i>) iawn, awn, <i>fem.</i> iakunt, akunt
young	giovine	shābb	amezian (<i>pl. im—en</i>); (<i>very y.</i>) aqshish (<i>pl. arrath</i>); (<i>young man</i>) ilemzi (<i>pl. -en</i>)
your	vostro	-kum (<i>fem. -kunna</i>)	ek, ak, ennek (<i>pl. enn-wen</i>), <i>fem.</i> em, am, ennem (<i>pl. enkunt</i>)
yours	il vostro	mālkum, lakum	enni-ennék (<i>pl. enni-ennewen</i>), <i>fem.</i> enni-ennem (<i>pl. enni-en-kunt</i>)
zone (of fire)	campo di tiro	minṭaqah	hadada b-ujh

NUMERALS

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
1	uno	wāhid	iyun, <i>fem.</i> iyuth
2	due	ithnain	sin, <i>fem.</i> senath
3	tre	thalāthah	thlatha
4	quattro	arba'ah	arbāa
5	cinque	khamsah	khamsa
6	sei	sittah	settsa
7	sette	sab'ah	sebāa
8	otto	thamāniyah	themanya
9	nove	tis'ah	tsāa
10	dieci	'asharah	ashera
11	undici	iḥda 'ashar	ahdash
12	dodici	ithnā 'ashar	ethnash
13	tredici	thalāthatah 'ashar	thelthash
14	quattordici	arba'atah 'ashar	arbatash
15	quindici	khamsatah 'ashar	khamsatash
16	sedici	sittatah 'ashar	settatah

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
17	dieciassette	sab'atah'ashar	sebatash
18	dieciotto	thamāniyatah 'ashar	thamanyatash
19	dieciannove	tis'atah 'ashar	tsatash
20	venti	'ishrīn	asherin
21	ventuno	wāḥid wa- 'ishrīn	wahad u asherin
30	trenta	thalāthīn	thlathin
31	trentuno		
40	quaranta	arba'in	arbāin
41	quarantuno		
50	cinquanta	khamsīn	khamsin
51	cinquantuno		
60	sessanta	sittīn	settsin
61	sessantuno		
70	settanta	sab'in	sebāin
71	settantuno		
80	ottanta	thamānīn	themanyin
81	ottantuno		
90	novanta	tis'in	tsāin
91	novantuno		
100	cento	mi'ah	miyah
101	centuno	mi'ah wa- wāḥid	miya u iyun
110	centodieci	mi'ah wa- 'asharah	miya u asher
111	centoundici	mi'ah wa- ihda 'ashar	miya u ahdash
120	centoventi	mi'ah wa- 'ishrīn	miya u asherin
121	centoventuno	mi'ah wa- wāḥid wa- 'ishrīn	miya u wahed u asherin
130	centotrenta	mi'ah wa- thalāthīn	miya u thlathin
200	duecento	mi'atain	miythain
201	duecentouno	mi'atain wa- wāḥid	miythain u iyun
210	duecentodieci	mi'atain wa- 'asharah	miythain u asher
211	duecentoundici	mi'atain wa- ihda 'ashar	miythain u ahdash

<i>English.</i>	<i>Italian.</i>	<i>Arabic.</i>	<i>Berber.</i>
220	duecentoventi	mi'atain wa- 'ishrīn	miythain u asherin
221	ducentoventuno	mi'atain wa- wāhid wa- 'ishrīn	miythain u wahed u asherin
230	duecentotrenta	mi'atain wa- thalāthīn	miythain u thlathin
300	trecento	thalātha-mi'ah	thelt miya
400	quattrocento	arba'a-mi'ah	arba miya
500	cinquecento	khamisa-mi'ah	khamis miya
600	seicento	sitta-mi'ah	setts miya
700	settecento	sab'a-mi'ah	sebah miya
800	ottocento	thamāni-mi'ah	thaman miya
900	novecento	tis'a-mi'ah	tsa miya
1,000	mille	alf	elef
1,001	mille e uno	alf wa-wāhid	elef u iyun
1,010	mille e dieci	alf wa-'asha- rah	elef u asher
1,011	mille e undici	alf wa-iḥḍa 'ashar	elef u ahdash
1,020	mille e venti	alf wa-'ishrīn	elef u asherin
1,021	mille e ventuno	alf wa-wāhid wa-'ishrīn	elef u wahed u asherin u
1,100	mille e cento	alf wa-mi'ah	elef u miya
1,101	mille e centuno	alf wa-mi'ah wa-wāhid	elef u miya u iyun
1,110	mille e centodini	alf wa-mi'ah wa-'asharah	elef u miya u asher
1,121	mille e cento- ventuno	alf wa-mi'ah wa-iḥḍa wa- 'ishrīn	elef u miya u wahad u asherin
2,000	due mila	alfain	elfain
10,000	dieci mila	'ashratak ālāf	asher welfen
100,000	cento mila	mi'at alf	miya welfen
$\frac{1}{2}$	mezzo	niṣf	azgen
$\frac{1}{4}$	un quarto	rub'	this arbaa
both (of them)	tutti e due	kilāhuma	i sin
first	primo	auwal	amzwarn
second	secondo	thāni	wis sin
third	terzo	thālith	wis thletha

QUESTIONS AND ANSWERS

TIME AND PLACE

Where is ?

Italian. Dove è ?

Arabic. Ain ?

Berber. Anida ? Anida illa ?

Where are they ?

Italian. Dove sono ?

Arabic. Ain hum ?

Berber. Anida ellan (*f. ellant*) ?

They are here.

Italian. Sono qui.

Arabic. Hum hunāk.

Berber. Da ellan (*f. ellant*) ; da athenaia (*f. da athen-taien*).

He is not there.

Italian. Egli non è.

Arabic. Laisa hunāk.

Berber. Ur illa ara d'inna.

Where are you going ?

Italian. Dove andate ?

Arabic. Ain tarūḥ (*pl. tarūḥūn*) ?

Berber. Sani theruhedh ?

Where have you come from ?

Italian. Da dove venite ?

Arabic. Min ain ji'ta (*pl. ji'tum*) ?

Berber. Ansi d thusidh ?

I am going home.

Italian. Io vado a casa mia.

Arabic. Anā rā'iḥ ila'l-waṭan (to my house, ila-baiti).

Berber. Ad ruh-egh s-akham.

We have come from home.

Italian. Veniamo da casa nostra.

Arabic. Ji'nā min al-waṭan (from our house, min baiti-nā).

Berber. N'us or n'effe seg ukham.

Come up.

Italian. Venite sù.

Arabic. Iṣ'ad (*pl. Iṣ'adū*).

Berber. Ali iia-d s-ufella.

Go down.

Italian. Andate giù.

Arabic. Inzil (*pl. Inzilū*).

Berber. Ader ruh-s b-wada.

Turn to the right (left).

Italian. Voltate a destra (sinistra).

Arabic. Hauwid 'ala yamīnak ('ala shimālak).

Berber. Beren s-aifus.

Stand still there.

Italian. State quieti.

Arabic. Qif hādiyan (*pl. Qifū hādīn*).

Berber. Sbedd elqeddik.

Wait for me.

Italian. Aspettatemi.

Arabic. Intazar-ni (*pl. Intazarū-ni*).

Berber. Qim dagi

Come with me.

- Italian.* Venite con me.
Arabic. Ta'āl ma'i (pl. ta'ālū ma'i).
Berber. Ased idi.

Go away.

- Italian.* Andate via.
Arabic. Ruḥ (pl. Rūḥū).
Berber. Ruḥ (pl. ruheth, fem. ruemth).

In which direction ?

- Italian.* In quale direzione ?
Arabic. Fi aiy jihah ?
Berber. Anwa ai abrid gher ?

In that direction.

- Italian.* In quella direzione.
Arabic. Fi tilk al-jihah.
Berber. S-abrid wahi.

How far is it ?

- Italian.* Quanto ē lontano ?
Arabic. Esh bu'd ?
Berber. Ashal its baid ?

It is not far !

- Italian.* Non è lontano !
Arabic. Ghair ba'id !
Berber. Ur itsbaid ara !

Two hours' distance.

- Italian.* A due ore di distanza.
Arabic. Masāfat sā'atain.
Berber. Amshwar saatain.

When will he come ?

- Italian.* Quando verrā . . . il soldato, la guida, &c. ?
Arabic. Mata yajī ?
Berber. Melmi ad-d-ius ?

At what o'clock ?

- Italian.* A che ora ?
Arabic. Aiy sā'ah ?
Berber. Ghef ashal essea deg ?

At six o'clock.

- Italian.* Alle sei.
Arabic. As-sā'ah sittah.
Berber. Ghef settsa.

In the morning.

- Italian.* La mattina.
Arabic. Ṣabāhan.
Berber. Deg (or gher) essabah).

Very early.

- Italian.* Di buon' ora.
Arabic. Badri jiddan.
Berber. Zik.

In the evening.

- Italian.* La sera.
Arabic. Masā'an.
Berber. Gher lasha.

At noon.

- Italian.* A mezzogiorno.
Arabic. Zuhran.
Berber. Gher tanesfa b-was.

It is late.

- Italian.* È tardi.
Arabic. Baṭī or muta'akhhir.
Berber. Iruh el hal.

How often ?

- Italian.* Quante volte? Di spesso?
Arabic. Kam marrah ?
Berber. Ashal n ezman ? (w. fut.)
 ar melmi ?

What time is it ?

- Italian.* Che ora è ?
Arabic. Kam as sā'ah ?
Berber. Ashal essāa ?

WEATHER

What will the weather be to-day ?

Italian. Che tempo farà quest'oggi ?

Arabic. Kaif yakūn at-ṭaqs al-yōm ?

Berber. Anwa hal ad illi assa ?

Very fine.

Italian. Bel tempo.

Arabic. At-ṭaqs ziyān.

Berber. Ilha elhal.

Bad, cloudy, foggy weather.

Italian. Tempo cattivo, nuvolo, annebbiato.

Arabic. Ṭaqs mu-ziyan, mughaiyam, dhabāb.

Berber. Agfur ameghmash illa.

It is snowing on the mountains.

Italian. Sulle montagne nevica.

Arabic. Tathluj ad-dunya 'ala'l-jibāl.

Berber. D'a ikkath udfel s-ufella idurar.

THE ROAD

Where does this road go ?

Italian. Dove va questa strada ?

Arabic. Ain yarūh hādha' -ṭ-ṭariq ?

Berber. Sanī itsawī abrid agi ?

Does this road go to — ?

Italian. Questa strada conduce a — ?

Arabic. Hal hādha' -ṭ-ṭariq yarūh ila — ?

Berber. Itsawī kera abrid agi gher — ?

Which road goes to — ?

Italian. Qual' è la strada per — ?

Arabic. Aiy ṭariq yarūh ila — ?

Berber. Anwa abrid itsawī gher — ?

Which is the shortest way ?

Italian. Qual' è la strada più corta ?

Arabic. Aiy ṭariq aqrah ?

Berber. Anwa ai abrid ai d-uzzil ?

Is it safe on the road ?

Italian. Si sarà al sicuro per strada ?

Arabic. Hal at-ṭariq ma'mūn ?

Berber. Abrid n-laman illa kera ?

How many hours is it to — ?

Italian. Quante ore si impiega per arrivare a — ?

Arabic. Kam sā'ah ila — ?

Berber. Ashal saāa b-ubrid armī d — ?

Take me to —.

Italian. Conducetemi a —.

Arabic. Dall-ni ila — (pl. Dallū-ni ila —).

Berber. Saaf-i ghur —.

Where is there drinking water on this road ?

Italian. Dove troveremo dell'acqua da bere su questa strada ?

Arabic. Ain mā ash-shirb fi hādha' -ṭ-ṭariq ?

Berber. Anida aman illa deg abrid agi ?

Is it a camel road ?

Italian. È una strada praticabile per camelli ?

Arabic. Hal at-ṭariq yuwāfiq lil-jimāl ?

Berber. Abrid inefa kera ar ilugh-man ?

Is it only a mule road ?

Italian. È soltanto una strada mulattiera ?

Arabic. Hal hua ṭariq lil-bighāl faqaṭ ?

Berber. Abrid inefa khatsima ar iserdan ?

Is it only fit for men on foot ?

Italian. La strada è soltanto adatta per uomini a piedi ?

Arabic. Hal hua yuwāfiq lilmushāt faqaṭ ?

Berber. Abrid inefa khatsima ar irgazen enni iruh-n f-udar ?

A VILLAGE OR TOWN**What is this place called—?**

Italian. Come si chiama questo posto ?

Arabic. Mā ism hādha'l-makān ?

Berber. Amra ism b-umkan agi ?

Show me the telegraph office.

Italian. Mostrate mi l'ufficio del telegrafo.

Arabic. Ain bait at-telegrāf.

Berber. Seknet-ii elbiro n-legraf.

Is there a telephone office here ?

Italian. C'è un ufficio del telegrafo qui ?

Arabic. Hal yūjad maḥall-talfūn hunā ?

Berber. Mi illa biro-n-telefon ?

How many houses in this village ?

Italian. Quante case ci sono in questo villaggio ?

Arabic. Kam bait fi hādhihi'l-qaryah ?

Berber. Ashal b-ikhemen di taldart agi ?

Where is the inn ?

Italian. Dov'è l'albergo ?

Arabic. Ain al-khānah ?

Berber. Anida illa fenduq ?

Where is the post ?

Italian. Dov'è l'ufficio della posta ?

Arabic. Ain al-bōṣṭah ?

Berber. Anida illa elbusta ?

We are going to stay the night here.

Italian. Resteremo qui per la notte.

Arabic. Nabīṭ hunā.

Berber. An-n ens d'agi.

AT A RIVER

What is this river called ?

Italian. Come si chiama questo fiume ?

Arabic. Mā ism hādha'n-nahr ?

Berber. Anwa ism-s b-usif agi ?

How deep is the river ?

Italian. Qual' è la profondità di questo fiume ?

Arabic. Esh 'umq hādha'n-nahr ?

Berber. Ashal qaāa b-usif agi ?

Where is the nearest bridge ?

Italian. Dov' è il ponte il più vicino ?

Arabic. Ain al-jisr al-aqrab ?

Berber. Anida illa tiqantart ag iqereben ?

Take me there.

Italian. Conducetemi lá.

Arabic. Khudh-ni ila hunāk.

Berber. Saaf-i gher d'inna.

Show me the nearest ferry.

Italian. Mostratemi il guado il più vicino.

Arabic. Ain al-ma'bar al-aqrab.

Berber. Seknet-ii tassast ag iqereben.

Get hold of a boat (canoe).

Italian. Trovatemi una barca.

Arabic. Jīb-li balam.

Berber. Ettefed merkab.

Is there a raft here ?

Italian. C' è qui una zattera ?

Arabic. Hal yūjad kalak ?

Berber. Ma illa rabdeh d'agi ?

Is the current strong ?

Italian. È forte la corrente ?

Arabic. Hal jarayān al-mā sarī' ?

Berber. Izreb asif agi ? or azreb wasiff izugger ?

Where is the easiest place to swim across ?

Italian. Qual' è il migliore posto per traversare a nuoto ?

Arabic. Aiy makān al-as-hal ḥat-ta nasbaḥ wana'bur ?

Berber. Anida illa maqan ai isehlen ad uumigh agumad ?

Take us across.

Italian. Portatoci dall' altra parte.

Arabic. 'Abbir-nā (pl. 'Abbirū-nā).

Berber. Saaf-agh agumad.

You will be rewarded.

Italian. Vi daremo una ricompensa.

Arabic. Nujāzīk (pl. Nujāzīkum).

Berber. At teqabel dhijara or at tiurghedh ijara.

You must go in front of me.

Italian. Dovete camminare davanti a me.

Arabic. Lāzim tamshi quddāmi.

Berber. Ilzem (or isefk-ak) atteqeddemidh i.

What lies on the other side ?

Italian. Che cosa c' è dall' altra parte ?

Arabic. Mā 'ala'l-jānib al-ākhar ?

Berber. Ashu thilla di agumad ?

Is it far to the mouth ?

Italian. Siamo lontani dalla foce ?

Arabic. Hal ba'id ila maṣabb (or fam) an-nahr ?

Berber. Ibaid kera ghef imi ?

A MOUNTAIN OR HILL

What is this big mountain called ?

Italian. Come si chiama questa grande montagna ?

Arabic. Mā ism hādha'l-jabal al-kabir ?

Berber. Anwa ism-s b-udrar agi ?

How high is the mountain ?

Italian. Quanto è alta la montagna ?

Arabic. Mā 'aluw al-jabal ?

Berber. Ashal ialaye adrar agi ?

What is the easiest way up the hill ?

Italian. Quale è la strada più facile per salire la collina ?

Arabic. Aiy tariq al-as-hal naş'ad at-tall ?

Berber. Ashu abrid ag-isehlen si itsali adrar agi ?

Is it very steep ?

Italian. È molto erto ?

Arabic. Hal hua kathīr muta-haddir ?

Berber. Ashreref nezzeh kera ?

Is it dangerous ?

Italian. È pericoloso ?

Arabic. Hal hua mukhtir ?

Berber. Degs el khufilla or matilla khuf ?

Can one get up on horseback ?

Italian. Si potrà salire a cavallo ?

Arabic. Hal yumkin naş'ad rāki-bīn ?

Berber. Zemerēn ad ulin ireke-ben ?

Can the guns be got up ?

Italian. Si potranno portar sū i cannoni ?

Arabic. Hal yumkin taş'id alma-dāfi' ?

Berber. Zemerēn ad refeden (or salin) medafa sufella ikhf ?

Yes, but they cannot be got down on the other side.

Italian. Sì, ma non si potranno portare giù dall' altro lato.

Arabic. Na'am, walākin lā yumkin tanzil-hum min al-jānib al-ākhar.

Berber. Uanabin lamana ur zemerēn ara saderen then agumad.

Are there several ways down ?

Italian. Ci sono parecchie strade che ?

Arabic. Turuq kathīrah linnuzūl ?

Berber. Illant kra iberdan ad aderen ?

Are there any thieves about ?

Italian. Ci sono dei ladri da queste parti ?

Arabic. Hal tūjad ḥarāmīyah ?

Berber. Illant kra iqaan grib ?

A FOREST

How big is the forest ?

Italian. Quanto è grande questa foresta ?

Arabic. Esh kubr al-ghāb ?

Berber. Ashal meqor thizgi ?

How wide is it ?

Italian. Quanto è larga ?

Arabic. Esh 'ardh-hu ?

Berber. Ashal yherrau thizgi ?

Where does the road go through the forest ?

Italian. Dove conduce la strada attraverso la foresta ?

Arabic. Fi aiy jihah min al-ghāb at-tariq ?

Berber. Sani abrid itsawi di tlem-mast n-thizgi ?

Can mounted troops get through the forest ?

Italian. Potranno le truppe a cavallo attraversare la foresta ?

Arabic. Hal yumkin al-khaiyālah ya'burūn al-ghāb ?

Berber. Zemmeren rakabin ad zegeren thizgi ?

Yes, but I don't think one can get through with the guns.

Italian. Sì, ma non credo che i cannoni potranno passarvi.

Arabic. Na'am, walākin mā azunn mumkin lil-madāfi'.

Berber. Uanabin lamana ur zigh ara zammeren ad zegeren id medafa.

RAILWAY STATION

Is it far to the railway ?

Italian. Siamo lontani dalla ferrovia ?

Arabic. Hal ba'id ila's-sikkat al-hadid ?

Berber. Ibaid gher babur ?

Only half an hour.

Italian. Soltanto una mezz' ora.

Arabic. Faqaṭ niṣf as-sā'ah.

Berber. Ara ness n-sa'āa.

When does the train arrive ?

Italian. Quando arriverà il treno ?

Arabic. Mata yaṣil al-qīṭār ?

Berber. Melmi ad-d awod babur ?

When does the train go to — ?

Italian. Quando parte il treno per — ?

Arabic. Mata yusāfir al-qīṭār ila — ?

Berber. Melmi ad iuza babur ghur — ?

Where is the next train coming from ?

Italian. Da dove viene il treno che arriva ?

Arabic. Min ain yajī al-qīṭār ath-thāni ?

Berber. Ansi ad-d-ius babur it-baan ?

Stop the train !*Italian.* Fermate il treno !*Arabic.* Waqqif al-qitār !*Berber.* Sbedd babur !**Get me a porter.***Italian.* Cercatemi un facchino.*Arabic.* Jīb-li ḥammāl.*Berber.* Awi i ahammal.**What is the fare ?***Italian.* Quanto costa il biglietto ?*Arabic.* Kam al-ujrah ?*Berber.* Ashal ais karta ?**Where is my luggage ?***Italian.* Dov' è il mio bagaglio ?*Arabic.* Ain asbābi (or 'afshi) ?*Berber.* Anida illa qesh-in ?

INQUIRIES ABOUT TROOPS

Have you seen our troops ?*Italian.* Avete visto le nostre truppe ?*Arabic.* Hal ra'aita (pl. ra'aitum) 'asākir-nā ?*Berber.* Tuwalad-dh iaskeriu ennagh ?**Do you know where the troops are ?***Italian.* Sapete dove sono le truppe ?*Arabic.* Hal tadri (pl. tadrūn) ain al-'askar ?*Berber.* Tessew-edh anida illant iaskarinen ?**Yes, I saw them by the wood.***Italian.* Sì, le ho viste vicino al Bosco.*Arabic.* Na'am, ra'aituhum qarīb al-ghāb.*Berber.* Ih, waligh then grib amadagh.**What sort of troops and how many are they ?***Italian.* Che genere di truppe e quante ce ne sono ?*Arabic.* Aiy nau' min al-'asākir wa-kam 'adad-hum ?*Berber.* Anwa jens b-iaskeriu illant d-ashel illant ?**Five thousand, with cavalry and guns.***Italian.* Cinque mila con cavalleria e cannoni.*Arabic.* Khamsat ālāf ma'a khay-yālah wa-madāfi'.*Berber.* Khams elefen id rekeben ed madafa.**Since when are they there ?***Italian.* Da quanto tempo sono lì ?*Arabic.* Min aiy mata kānū hunāk ?*Berber.* Seg melmi (or segashal) zman illant inna ?**In which direction have they marched ?***Italian.* In che direzione si sono avviate ?*Arabic.* Ila aiy jihah mashū ?*Berber.* Anwa adebber ghur le-huen ?**Where is an officer ?***Italian.* Dov' è un ufficiale ?*Arabic.* Ain adh-dhābiṭ ?*Berber.* Anida illan inen fitsian ?**Take me to the Colonel.***Italian.* Conducetemi dal colonnello.*Arabic.* Waddīni ila'l-mīrālai.*Berber.* Saaf-i gher koninir.

I have a letter from our General.

Italian. Ho una lettera dal nostro generale.

Arabic. 'Indi maktūb min mushīr-nā.

Berber. Ibbal-ii-d tabrat seg jininar.

FOOD AND DRINK

I am hungry, I wish to eat.

Italian. Ho fame, desidero di mangiare.

Arabic. Anā jū'an, arīd shai a'kul.

Berber. Luzigh, bghigh (or aufan kra) ad itshigh or wasigh kra g-utshi.

I am thirsty, I wish to drink.

Italian. Ho sete desidero di bere.

Arabic. Anā 'atshān arīd shai ashrah.

Berber. Fudigh bghigh kra ad-suigh.

Where can I get food?

Italian. Dove troverō da mangiare?

Arabic. Ain aḥṣṣil at-ṭa'am?

Berber. Anida zemmreggh ad ufigh utshi (or ufigh kra) ad itshigh?

Innkeeper, we want a meal.

Italian. Signor oste, desideriamo da mangiare.

Arabic. Yāsāhib al-bait, nurīd akl.

Berber. Bab ne therna ne-stehaqq kra g-utshi or kra ad nitsha.

Give me something to drink.

Italian. Datemi qualche cosa da bere.

Arabic. A'ṭini farīd shai ashrah.

Berber. Efki-ii kra ad suigh.

Have you enough for all my men?

Italian. Avete abbastanza da mangiare per tutti i miei uomini?

Arabic. Hal 'indak shai yakfi kull rijālī?

Berber. Ghur-ek barka i ok medden-in?

Is the water good here?

Italian. E' buona l' acqua qui?

Arabic. Hal al-mā hunā jāyid?

Berber. Aman d-lali-ten dagi?

Have you fresh eggs?

Italian. Avete delle uova fresche?

Arabic. Hal 'indkum baidh?

Berber. Ghur-ek timelallin ijdden?

Bring bread and cheese.

Italian. Portateci del pane e del formaggio.

Arabic. Jīb-lanā khubz wa-jubn.

Berber. Efki-ü aghrum ed aguglu.

Bring us coffee with milk.

Italian. Portateci del caffè e del latte.

Arabic. Jīb-lanā qahwah biḥalīb.

Berber. Efki-iar qahwa ed aifki.

Hurry up, we haven't much time.

Italian. Fate presto perché abbiamo poco tempo.

Arabic. Ista'jil, mā 'indnā waqt.

Berber. Ghiulet, ur nestufar ara.

I am going to pay for it.*Italian.* Pagherò io, vi pagherò.*Arabic.* Anā adfa' thamanha.*Berber.* Ad kellesigh hsab.**Bring us the bill.***Italian.* Portateci il conto.*Arabic.* Jib sūrat al-ḥisāb.*Berber.* Efk-iar hsab.**How much do we owe?***Italian.* Quanto vi dobbiamo?*Arabic.* Kam naḥnu madyūnīn?*Berber.* Ashal hsab ennagh?**How much does this cost?***Italian.* Quanto costa questo?*Arabic.* Kam thaman hādha?*Berber.* Ashal ienz (or ashal-is)?**BILLETS, LODGING AND STABLING****I want quarters for 50 men.***Italian.* Desidero alloggio per cinquanta uomini.*Arabic.* Arīd maḥall yasi' kham-sin nafar.*Berber.* Bghigh tanezdurt ar kham-sin igrazen.**Give me better quarters.***Italian.* Datemi un alloggio migliore.*Arabic.* A'tini maḥall aḥsan.*Berber.* Efk-ii akhīr tanezdurt.**Have you found me quarters yet?***Italian.* Mi avete trovato alloggio?*Arabic.* Hal wajadta-li maḥall?*Berber.* Teharredh kera tanezdurt?**Where is the owner of the house?***Italian.* Dov' è il padrone di questa casa?*Arabic.* Ain sāḥib al-bait?*Berber.* Anida illa bab akham?**Light the fire, please.***Italian.* Per piacere accendete il fuoco.*Arabic.* Arjūk ish'al an-nār.*Berber.* Sigh times thkhibak.**I want stabling for 16 horses.***Italian.* Desidero stallaggio per sedici cavalli.*Arabic.* Arīd akhūr li-sittatah-'ashar ḥisān.*Berber.* Stehaqqigh adainin ar sebatash iaudiwen.**Thanks, we want nothing more.***Italian.* Grazie non abbiamo bisogno.*Arabic.* Ashkurak, hādha kull.*Berber.* Ikhetter khīr-ek n-bghigh ulash akter.**Tell all people not to be afraid.***Italian.* Dite alla gente che non devono aver paura.*Arabic.* Qul li-jamī' an-nās lā yakhāfū.*Berber.* Kull wa as-d-ini ar ur yaugwad ara.**Where is there some clean water?***Italian.* Dove si trova dell' acqua pulita?*Arabic.* Ain najid mā ṣāfi?*Berber.* Anida illa aman isfen?

Clear those houses ; we are going to quarter our men in them.

Italian. Sbarazzate quelle case, vi vogliamo alloggiare i nostri uomini.

Arabic. Farrigh tilk al-buyūt ; narīd nusakkin rijāl_{nā} fihā.

Berber. Suffigh ok medden g-ikhamen agi ad n sens irgazen ennagh di asen.

Have you small-pox in this village ?

Italian. Avete dei casi di vaiuolo in questo villaggio ?

Arabic. Hal jidri fi hādhihi'l-qaryah ?

Berber. Ma illa tezerzait d'i taddart agi ?

Tell me the house where there are sick men.

Italian. Mostratemi le case dove ci sono dei malati.

Arabic. Akhbirni ain al-hōsh al-ladhi fihi mardha.

Berber. Seknet-ü akbham u-deg illan imudan.

Is it feverish here ?

Italian. Si prendono le febbri in questo posto ?

Arabic. Hal hādha'l-makān fihi humma ?

Berber. Agh tetsar medden taula d'agi ?

Is it healthy here ?

Italian. Questo posto è salubre ?

Arabic. Hal hādha'l-makān mu-wāfiq liṣ-ṣiḥḥah ?

Berber. Makan agi ishan illa kera ?

STRANGERS OR SUSPECTS

Stop ! or I shall shoot.

Italian. Fermatevi ! se no faccio fuoco.

Arabic. Qif ! wa-illā uqauwisak.

Berber. Nqorat ! (or habset) mulash ad suferigh lujh.

Don't move from the spot.

Italian. Non movetevi da questo posto.

Arabic. Lā tataḥarrak min makānik.

Berber. Ur tsembuiul ara si' agi.

Stand a little farther off.

Italian. Mettetevi un po' più distante.

Arabic. Qif ab'ad.

Berber. Qim akinna shwia.

Come closer.

Italian. Avvicinatevi.

Arabic. Taqarrab (pl. Taqarrabū).

Berber. Qerreb-ed.

Turn round.

Italian. Voltatevi.

Arabic. Dauwir (pl. Dauwirū).

Berber. Ezzi.

Hands up !

- Italian.* Sù le mani ! Alzate le mani !
Arabic. Arfa' yadaik !
Berber. Refed ifasen-ek !

Put down your arms.

- Italian.* Posate le armi.
Arabic. Irmī aslihatak (pl. Irmū aslihat-kum).
Berber. Sider i slah.

Surrender.

- Italian.* Arrendetevi.
Arabic. Sallim nafsak.
Berber. Efk maina (or dua).

You may not talk to any one.

- Italian.* Non dovete parlare a nessuno.
Arabic. Lā tatakallam (pl. tatakallamū) ma'a aḥad.
Berber. Harremigh-k attedheredh ulahad.

You are trying to deceive me.

- Italian.* Voi cercate d' ingannarmi.
Arabic. Anta tarīd an takhda'-ni.
Berber. Tezwerdh atgheledh-i.

You are lying !

- Italian.* Voi mentite !
Arabic. Anta kadhdhāb !
Berber. Tekedeb-edh !

You are a spy !

- Italian.* Siete una spia !
Arabic. Anta jāśūs !
Berber. Thellidh akhbarji !

You are under arrest.

- Italian.* Siete agli arresti.
Arabic. Anta taḥta tauqīf.
Berber. Hebesigh-ek.

Take off your belt.

- Italian.* Levatevi la cinta.
Arabic. Fuk ḥizāmak.
Berber. Eks agus-ek.

If you behave you will be safe.

- Italian.* Se vi conducete bene, sarete salvo.
Arabic. Hassin sulūkak takun fi amān.
Berber. Mi d-lāli srira-ek ur khuf.

WOUNDS OR SICKNESS

Do you feel better ?

- Italian.* Vi sentite meglio ?
Arabic. Hal anta aḥsan ?
Berber. Tura shwi ?

Do you feel worse ?

- Italian.* Vi sentite peggio ?
Arabic. Han anta adh'af ?
Berber. La tetsenterrayedh ? tura d'iri ghef ?

What is the matter ?

- Italian.* Che cosa avete ?
Arabic. Mā al-khabar ?
Berber. D-ashu-t ? ashu illa ?

I am wounded.

- Italian.* Sono ferito.
Arabic. Anā injaraḥt.
Berber. Tsu-ferahigh or tsu ethigh.

Where are you wounded ?

Italian. Dove siete ferito ?

Arabic. Ain injaraht ?

Berber. Anida jarh-ek ?

In the knee, the foot.

Italian. Al ginocchio, al piède.

Arabic. Fir-rukbah, fil-qadam.

Berber. Di tagushriert-u di adar-u.

Keep quiet.

Italian. State tranquillo.

Arabic. Uskut (*don't talk*), lā tata-harrak (*don't move*).

Berber. Bedd ! qim ! (*stand still*), hess ! sau ! (*silence*).

You musn't speak.

Italian. Non dovete parlare.

Arabic. Lā tatakallam.

Berber. Ur neteq ara.

Sit down, lie down.

Italian. Sedetevi, sdraiatevi.

Arabic. Uq'ud (*pl.* Uq'udū), idh-ṭaji' (*pl.* idhṭaji'ū).

Berber. Qim, deleq, fesser.

Undress yourself.

Italian. Spogliatevi.

Arabic. Ikhla' thiyābak.

Berber. Eks elhawaij-ek or elleb-sa-k.

Give me water.

Italian. Datemi dell' acqua.

Arabic. A'ṭini mā.

Berber. Efk-ii aman.

Here is water and brandy.

Italian. Ecco dell' acqua e del cognac.

Arabic. Hādha mā wa-kunyāk.

Berber. Athaia aman d-araki.

Give me a bandage.

Italian. Datemi una benda.

Arabic. A'ṭini rabāṭah.

Berber. Efk-ii tufint.

Help me with the bandaging.

Italian. Aiutatemi a bendare.

Arabic. Sā'id-ni'ala hādha'r rabṭ.

Berber. Aiwen-i ad-shiddagh tu-flint.

Go to the Doctor and tell him to come at once.

Italian. Andate dal dottore e ditegli di venire subito.

Arabic. Ruḥ ila't-ṭabīb wa-qul lahu ya'ti ḥālan.

Berber. Ruḥ ghur tbib-d ini-as (*or amer-as*) ad-d-insa.

Take this medicine.

Italian. Predente questa medicina.

Arabic. Ishrab hādha'd-dawā.

Berber. Agh dua agi.

Take this man to hospital.

Italian. Portate quest' uomo all' ospedale.

Arabic. Khudh (*pl.* Khudhū) hādha'r-rajul ila'l-mus-tashfa.

Berber. Awi argaz agi gher sbitar.

GENERAL PHRASES

Good night, madam.*Italian.* Buona notte, signora.*Arabic.* Masā al-khair yā saiyi-dati.*Berber.* Msa-l-khir fell em, lala.**Good morning, madam.***Italian.* Buon giorno, signora.*Arabic.* Šabāh al-khair yā saiyi-dati.*Berber.* Šbah el khir fell em, lala.**Good morning, sir.***Italian.* Buon giorno, signore.*Arabic.* Šabāh al-khair yā-saiyidi.*Berber.* Šbah el khir-fell ek siied.**How are you ?***Italian.* Come state ?*Arabic.* Kaifa ḥālak (*pl.* ḥāla-kum ?)*Berber.* Ma teshad? amek hal-ek?**I am sorry.***Italian.* Mi rincresco. Domando-scusa.*Arabic.* Anā muta'assif.*Berber.* Ghadigh.**What is the news ?***Italian.* Che notizie ci sono ?*Arabic.* Māl', -akhbār ?*Berber.* Anwa khbar ?**Do you know English ?***Italian.* Sapete parlare inglese ?*Arabic.* Hal ta'rif (*pl.* ta'rifūn) inglisi ?*Berber.* Tessen-dh tamezlait n-legliz ?**Speak slowly.***Italian.* Parlate lentamente.*Arabic.* Takallam yawāsh (*or* bi-ta'anni).*Berber.* Heder s-tazit.**There is a fire.***Italian.* C'è un incendio.*Arabic.* 'Inda-nā nār.*Berber.* Limerghiut illa d'inna.**Impossible.***Italian.* È impossibile.*Arabic.* Ghair mumkin.*Berber.* Muhal.**Please come in ; sit down.***Italian.* Fatemi il piacere di entrare, di sedervi.*Arabic.* Tafadhdhal udkhul, uq'ud.*Berber.* Keshem-d tskhilek, qim.**God grant it !***Italian.* Dio lo voglia !*Arabic.* In shā Allāh !*Berber.* In sha Allah !**It is true.***Italian.* È vero.*Arabic.* Ṣaḥīḥ.*Berber.* Wallah ar tidets.**What are your wishes ?***Italian.* Che cosa desiderate ?*Arabic.* Mādha turīd (*pl.* turīdūn) ?*Berber.* Ashu tibghadh ?

Thank God ! I am well !

- Italian.* Grazie a Dio sto bene !
Arabic. Al-ḥamdu lillāh anā bi-khair !
Berber. Esheker l'Allah ishagh !

You are welcome.

- Italian.* Siete il benvenuto.
Arabic. Marḥaban bika (pl. bikum).
Berber. Mrahba is-ek.

Please.

- Italian.* Per piacere. Per favore.
Arabic. Tafadhdhal.
Berber. Sefrah-i, ennar.

Thank you.

- Italian.* Grazie.
Arabic. Ashkurak or Aḥsant.
Berber. Iketter khir-ik.

Do you understand ?

- Italian.* Avete capito ?
Arabic. Hal 'arift (pl. 'ariftum) or Hal tafham (pl. tafhamūn) ?
Berber. Tefehemedh ?

I don't understand.

- Italian.* Non ho capito.
Arabic. Anā mā fahimtu.
Berber. Ur fehemigh ara.

All right.

- Italian.* Va bene.
Arabic. Taivib.
Berber. Swaswa, irbah, isker, mlih.

There is no news.

- Italian.* Non ci sono notizie.
Arabic. Mā fi khabar.
Berber. Ula khbar illa.

How do you know ?

- Italian.* Come fate a saperlo ?
Arabic. Kaif ta'rif ?
Berber. Amek tessenedh ?

It is false.

- Italian.* È falso. Non è vero.
Arabic. Laisa ṣaḥīḥ or kidḥb.
Berber. Batel illa ur n-saḥh ara.

I am glad.

- Italian.* Sono contento.
Arabic. Al-ḥamdu lillāh.
Berber. Ferhegh.

Possible.

- Italian.* È possibile.
Arabic. Mumkin.
Berber. Imken or illa wamek.

Rain threatens.

- Italian.* Minaccia di piovere. Vuol piovere.
Arabic. Ad-dunya maṭṭārah.
Berber. D'ain idehren ad-iunt.

It is moonlight.

- Italian.* C'è chiaro di luna.
Arabic. Ad-dunya muqmirah or nūr qamar.
Berber. Tiziri illa or agur illa.

How old are you ?

- Italian.* Quanti anni avete ?
Arabic. Kam sanah 'umrak ?
Berber. Ashal deg l'amer-ik ?

I must go.

- Italian.* Devo andarmene.
Arabic. Lāzim arūḥ.
Berber. Tura ad ruhigh or tebui-i ruhigh.

Is he at home ?

- Italian.* È in casa ?
Arabic. Hal hua fil-bait ?
Berber. Netsa illa s-akham kera ?

Who is it ?

- Italian.* Chi è ?
Arabic. Man hua ?
Berber. Anwa d'iusan or anwad-illa ?

Let him enter.

- Italian.* Fatelo entrare.
Arabic. Da'-hu yadkhul.
Berber. Sekshem-s.

Does the water boil ?

- Italian.* L'acqua bolle ?
Arabic. Hal al-mā fār (or ghalā) ?
Berber. Aman d'a rekkemen kera ?

Good-bye.

- Italian.* Addio.
Arabic. Auda'nākum.
Berber. Bqa ala khir.

Au revoir.

- Italian.* Arrivederci.
Arabic. Nashūf wajhak 'ala khair.
Berber. A-nemlaqa in sha Allah.

Pleasant journey.

- Italian.* Buon viaggio.
Arabic. Safar maimūn.
Berber. Sfer l'khir-ik.

Of course.

- Italian.* Naturalmente.
Arabic. Tab'an.
Berber. Maâlum or madured.

Please tell me.

- Italian.* Per piacere ditemi.
Arabic. Tafadhhal qul-li.
Berber. Ini-i ts-khil-ik.

What did you say ?

- Italian.* Che cosa avete detto ?
Arabic. Mā-dha qulta ?
Berber. Ashu tinnadh ?

What did he say ?

- Italian.* Che cosa ha detto ?
Arabic. Mā-dha qāl ?
Berber. Ashu inna ?

Excuse me.

- Italian.* Scusatemi.
Arabic. Al-'afwu or sāmiḥ-ni.
Berber. Hasha-k.

You are mistaken.

- Italian.* Vi sbagliate.
Arabic. Anta ghaltān.
Berber. Tegheled-dh or ketch igheled-n.

No matter.

- Italian.* Non importa.
Arabic. Lā bas.
Berber. Khas, ghas.

NOTE A

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Tripolitania, carta dimostrativa della, 1 : 1,000,000, by Pio Galli : Antonio Vallardi, Editore, Milano. Sheet 1, extending W. to Medina es Soltan ; inset, Fezzan, 1 : 1,500,000. Sheet 2, Cirenaica (to Sollum). N.D. (1911 ?) (Giving distances for all stages of all routes, with moderate accuracy.)

Tripolitania Settentrionale : schizzo dimostrativo delle zone coltivate e coltivabili. 1 : 800,000. Ministero delle Colonie, Direzione generale Affari Politici, Ufficio Cartografico no. 193, 1914.

Tripolitania Settentrionale. Schizzo dimostrativo della distribuzione della popolazione. 1 : 800,000. Ministero delle Colonie, Direzione generale Affari Politici, Ufficio Cartografico, no. 194, 1914. Giving density of population, and limits and population of administrative districts.

Cirenaica, Schizzo dimostrativo della, in 4 fogli.

Governo della Cir., Ufficio Politico Militare. 1 : 200,000.

Foglio 1, nord (Merj), Mar. 1914, no. 157.

Foglio 3, sud (Wadi Temime), Mar. 1914, no. 139.

Cirenaica, carta dimostrativa della, in 4 fogli. 1 : 400,000.

Ufficio Politico Militare, Governo della Cirenaica.

Foglio 1, nord (Benghazi-Marsa Susa).

Cirenaica. Carta schematica dimostrativa della distribuzione delle tribù. Ministero delle Colonie, Uff. Cartografico no. 143, 1914. About 1 : 2,500,000.

Cirenaica, Carta dimostrativa della. Istituto Geografico Militare. 1911. (Compiled for military use during the war.) 1 : 600,000.

NOTE B

ON THE SPELLING OF NAMES

Phonetic values.—The system of spelling adopted is as follows. Consonants have their English values, with the exception of a few conventional equivalents for sounds absent from English; vowels are pronounced as in Italian.

a as in hat, father.

e as in set, *fête*.

i as in sit, unique.

o as in hot, open.

u as in put, clue.

ch as in church (*Fr.* tch; *Ger.* tsch).

j is the same sound voiced: as in jam (*F.* dj; *Ger.* dsch).

kh as in Scotch loch, or in German ach.

gh the same sound voiced, like the Swiss or Northumberland *r* (*Fr.* gh, rh, r; *Ger.* gh, rh, r).

s as in see (*Fr.* ç, s; *Ger.* ss).

z the same sound voiced, as in breeze (*Fr.* s, z; *Ger.* s).

sh as in she (*Fr.* ch; *Ger.* sch).

w as in we (*Ital.* u; *Fr.* ou; *Ger.* u, w).

y as in yet (*Ital.* i; *Fr.* i; *Ger.* j).

q is not used. *qu* is rendered *kw*; the Arabic *kaf* (*k* pronounced in the back of the mouth and sometimes rendered by *q*, as *qasr* or *g* according to pronunciation) is rendered *k*.

c is not used except in *ch* as above.

The Italian system.—The spelling in this book is based, wherever possible, on that adopted in official Italian maps and publications. These have been accepted in all doubtful cases as authoritative; e. g. in the vocalization of such names as Zliten (Esliten, Zeliten, Zelten), Misurata (Misrata, Mesrata). The Italian spelling has however been transliterated as explained below.

Where no official Italian spelling has established itself as yet, the pronunciation has been inferred from Italian unofficial and other maps and the accounts of travellers, and expressed according to the foregoing system.

The chief transliterations from the Italian are given below to facilitate the use of Italian maps with this book.

c hard, and **ch** before *e* or *i*, or at the end of a word representing the same sound (*Socna*, *chebir*, *Murzuch*), are rendered **k**.

ch, when used for the Arabic *khe* (scech) is rendered **kh**.

g, when used for the Ar. *ghain* (Garian) is rendered **gh**.

g hard, for Ar. *kaf* (gasr, Gatrun) is generally rendered **k**.

g soft, before e or i, or at the end of a word (gebel, Giofra, Merg), is rendered **j**.

gg soft, at the end of a word (Kasr el Hagg) is rendered **jj**.

r, when used for Ar. *ghain* (Serir), is rendered **gh**.

s voiced (as in *these* ; e. g. Sliten, Semsem ; sometimes in official, frequently in unofficial, publications) is rendered **z**.

sc before e or i, or at the end of a word (Sceescuc, Gargaresc) is rendered **sh**.

i and **j**, when consonantal (Saiad, Jefren), are rendered **y**.

u, when consonantal (Zauia), is rendered **w**.

It should be observed that, apart from uncertainties (especially in the less explored part) as to the correct version of a name, the current spelling of names in Tripoli, especially that used on Italian maps, is very unsystematic. Thus Italian maps often spell places on the German or English system if they are compiled in part from German and English sources. The place Si Rashedan, for instance, should be spelt in Italian Si Rascedan, but is generally spelt Si Raschedan. It is therefore impossible to determine what pronunciation is intended by such maps without consulting other authorities. The Italian survey will ultimately, it is hoped, fix a satisfactory version of all place-names.

Conventional spellings.—Zwara is properly called Zwagha el Gharbia, while Zwagha (It. Zuaga) is properly Zwagha esh Sherkia. The Italians have however adopted a conventional spelling in order to distinguish the two, transliterating the Ar. *ghain* in the former case by *r*. This distinction has been retained in the present book.

In two cases the English forms used are not directly transliterated from an available Italian official version :—

The ordinary English form Khoms (used in the *Military Report on Tripoli* (1905), *Mediterranean Pilot*, and other English authorities) has been adopted as against the Italian Homs, though the latter is strictly correct ; so that in this single case kh represents not خ (*khe*) but ح (*he*, a hard *h*).

The English form Tawerga has been adopted as against the Italian official, which would make Taurga, because the latter would not in English sufficiently indicate that the name has three syllables. The **u** in Arabic is practically consonantal.

NOTE C

GLOSSARY

SOME ARABIC TERMS OCCURRING IN PLACE-NAMES

- ABU, father ; possessing.
AIN, spring.
AKBAR, great.
AKDAR, dark.
AULAD, pl. of walad, boy.
BARKA, stony and clayey ground.
BEIT, house.
BENI, pl. of ibn, son.
BINT, girl.
BU, for abu.
EDEYEN, sand dunes.
FAREGH, broad, level.
FONDUK, inn.
GHANEM, flocks and herds.
GHARB, west.
GHARBIA, western.
HAJJ, pilgrim.
HAMMADA, rocky desert.
HARUJI, continuation (e.g. of a mountain-chain).
HOMRA, red.
JEBEL, mountain.
JOF, hollow, bucket.
JOFRA, cavity; low country.
KARUBET, water-skins.
KASBA, KUSBAT, town, citadel.
KASR, house, castle.
KEBIR, large.
KESHEM, watercourses.
MARABUT, tomb of a *marabut* or saint
MARAWA, desert.
MARSA, cove, harbour.
MATEN, plateau.
MEDINA, town.
MENSHA, home country.
MERJ, meadow.
NJEM, stars.
RAS, head, cape.
SAHEL, beach.
SEBKHA, salt marsh.
SEGHIR, gravel desert ; lit. small.
SENAM, idol (applied to the remains of Roman oil-presses).
SHARK, east (rising).
SHERKIA, eastern.
SHIYATI, space between hills.
SIDI, Sir (title of a *marabut* ; a place-name so beginning indicates the tomb of a saint).
SODA, fem. of aswad, black.
SOF, valley (Sofejin = sof ed jinn, valley of devils).
SUK, market.
SWANI, garden.
TWEBIA, annexes, dependencies.
UMM, mother ; possessing.
ZAWIA, college, monastery.

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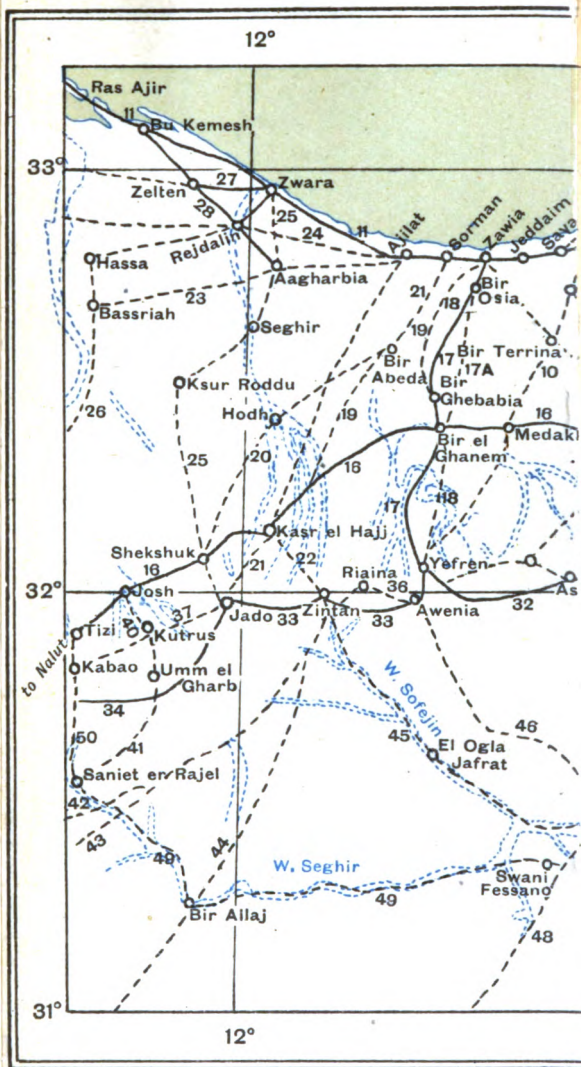
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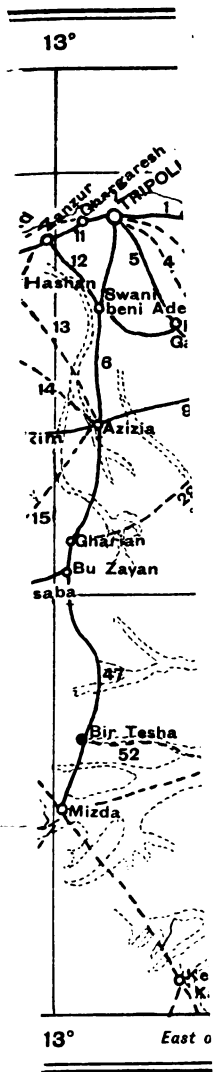
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